

**MANCHESTER SCHOOL
OF ARCHITECTURE**

Featured Model by Patrick Davies

B.15
**MODELMAKING
AWARDS 2022**

**HE
NN**

COMPLETE LONGLIST

BArch

Cameron Griffin

BA Year 1

Project: Makers Space Communal Craft Building

The project brief involved reusing the plot of a recently demolished structure on the corner of Piccadilly Gardens which neighbours various dated buildings from the 19th to 21st century. The goal was to create a communal craft building based on a chosen type of craft, in which I chose Origami. My idea was to separate the proposed building into three floors, each with a theme being that of a workshop, craft space, Meeting area / presentation space and social space.

The separation of the floors would allow for people to transition seamlessly through the structure through their time in the building. They would first meet in the social space, practice paper Origami in the craft space, put the skills into practice in the creation of metal work based Origami in the workshop space which can be then presented to the public in the presentation space.

After constructing various sketches, plans, technical drawings and renders, I thought the next step would be to create a scale accurate model. I chose a 1:200 scale as this would allow me to position my final model on the group site context created in studio, this would allow me to gain a greater understanding of the scale of my design and the way it blends into the surrounding structures.

I decided to create a model which would have a modular construction allowing the parts to be presented in various ways such as plan sections, sectional elevation, site context and the model as a whole. I achieved this through CAD modelling in Fusion 360 based on my created Revit and Rhino CAD Models. I then fabricated the structure through the use of FDM (Fused Deposition Modelling) and DLP (Digital Light Processing) 3D printing at home which allowed for detailed and accurate scale parts to be created. I then proceeded to spray-paint these in white to create a porcine model effect. Finally I decided to cast the basement in a concrete form at home to give the model a solid base, additionally I created a foam and wood site context which could fit over the model to provide some localized site context for the exhibition.



Image 01: Model with foam localised site context



Image 02: Pedestrian view of the model situated on group site context

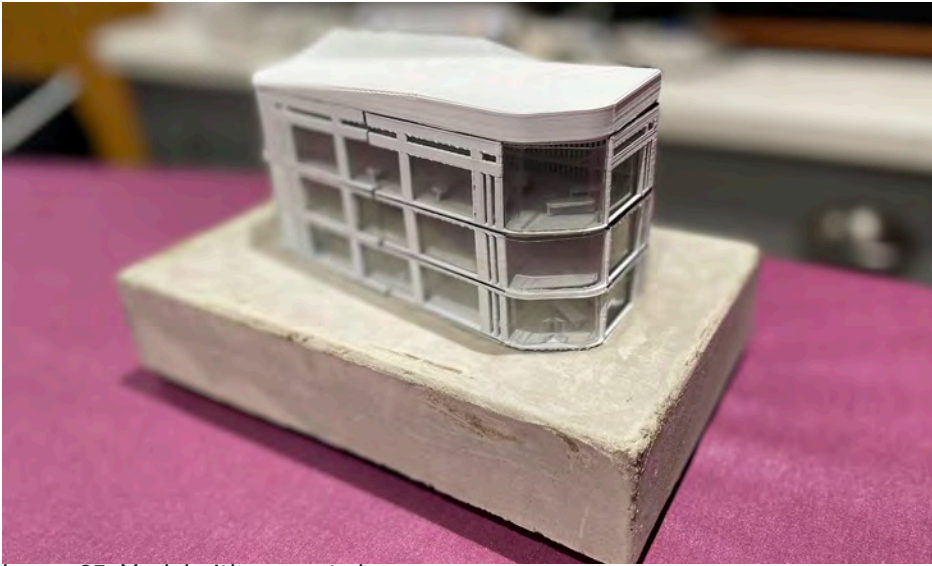


Image 03: Model with concrete base



Image 04: Rooftop shot of Model on group site context



Image 05: Sectional view with front modules removed

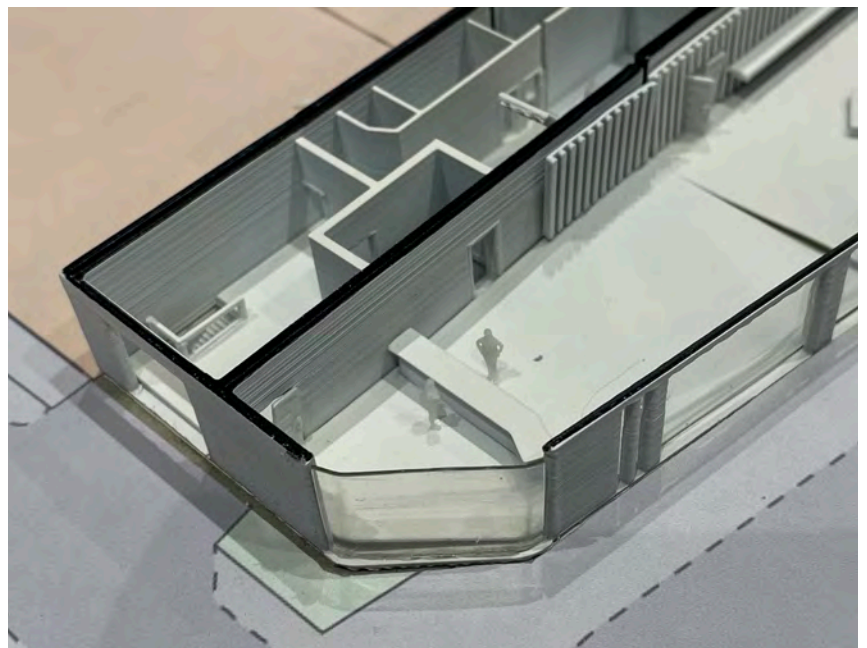


Image 06: Close-up shot of cafe within the ground floor

Irina Lungu , Romania

Ba Year 1

Project: Making Connections

Gin Distillery Concept

The brief was to choose a craft and design a building based on it, with three key internal spaces: a workshop, makerspace and public space.

By choosing gin-making as my craft, I wanted to abide by an activity that felt like it had hidden architectural concepts inside the making process, from the way flavour is added by testing with botanics, just like creating a design by trying out different iterations, to the simple act of designing a bottle, imprinting your personal architecture onto that delicate bottle design.

After taking in the site and understanding the gin-making process, I started looking for precedents that can reflect the character of both, design and materiality, like the Bombay Sapphire Gin Distillery by Heatherwick. Moreover, Heatherwick Studio's design in Leeds really manages to create an easy touch that lights up the surroundings and the interior of the building. Thus, I wanted to generate a contrast between what is expected when thinking of a distillery and bring out the artistic and personal side of this process. Moreover, the part that is the key to achieving that soft and even tranquil experience is also the main structural factor of the design, combining beauty with functionality, as architecture should.

The thinking process behind this model began with the idea of rearranging my design in a way which communicates the feel of the whole distillery, thus the need for abstract work is imminent. The next steps were to pinpoint the key aspects that truly define the creation and give its unique perspective. Because the gin machinery is on display inside the glass dome area, I thought exploring this feature and illustrating it in this piece is a must. That is why the feature is doubled so that it would reflect the fact that it houses the machinery and the people, especially the visitors that would enjoy the rooftop area. The final model's base is a 1:100 scale of my actual floor plan, with heights following that scale, the dome's dimensions being abstracted from reality as the piece's purpose is to reflect the feeling of the space.

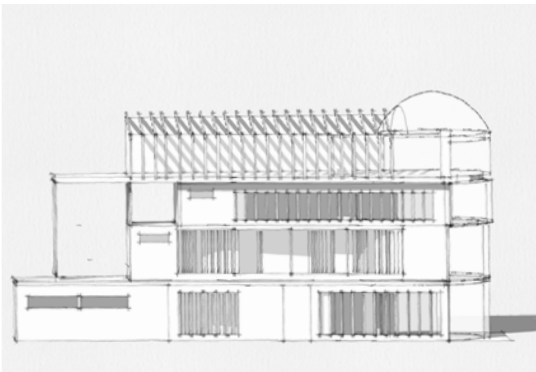


Image 01: Sketch of final building

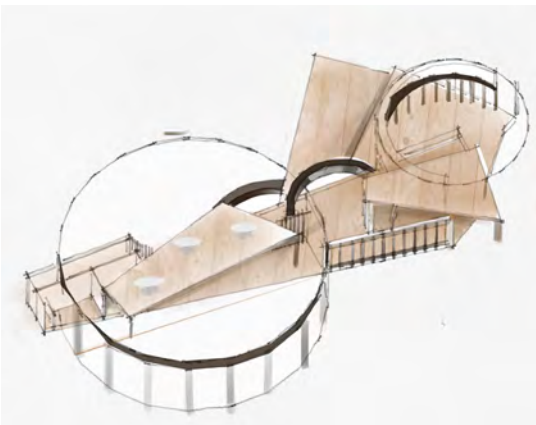


Image 02: Prototype for the abstracted model



Image 03: View of final lasercut and hand made plastic domes model, abstracted piece



Image 04: External view showcasing the gin still inside the dome



Image 05: View of internal structure, illustrating and focusing on the structural system



Image 06: Top view presenting how a human would interact with the space

Louis Walsh

Ba Year 1

Project: Our space

Reform Edith

The Our Space brief was set as a way to develop a design for a building for an underrepresented/ marginalized household of our choosing. My adaptation of the brief, 'Reform Edith', set to produce a safe environment for people who have just left prison, as a way of reintroducing them into the community of Manchester.

The model pictured in this document was one of the first elements of the project I produced. I would say that it is an abstract concept model acting as a visual representation of the key aims of the building I designed. There are three key elements to the model. The first one being the three towers, which I constructed from intertwining metal wire between two different sizes of chicken wire to form cages. I purposely kept the sharp protrusions of the chicken wire on show, and if you were to touch the model it would be painful. This is to represent the potential violent and volatile behavior of convicts when they are restricted to cells in the British prison system. The second element is the concrete cast base in which the towers are secured, highlighting the solid roots institutionalization has in British society. The third and final aspect to the design is the 1:100 scale figure. Edith. She is a representation of the freedom ex-convicts experience when they leave our prisons. Highlighting that when they have the ability to interact with the community and make their own decisions, they do not act on any hostile tendencies. She is also a further reflection of the central function of my final building proposition – to provide a safe environment for reformation and break their ties to institutions.

This model was produced from home, and was done over a week. This was due to the fact that, as mentioned previously, touching the metal towers was painful. I was not able to use gloves when constructing them, as they prevented me from intertwining the wire between the small holes of the layered chicken wire with the detail that I wanted. This meant that I had to take time to for the many cuts I got to heal before continuing with the building process.



Image 01: Image showing 1:100 figure (third element)

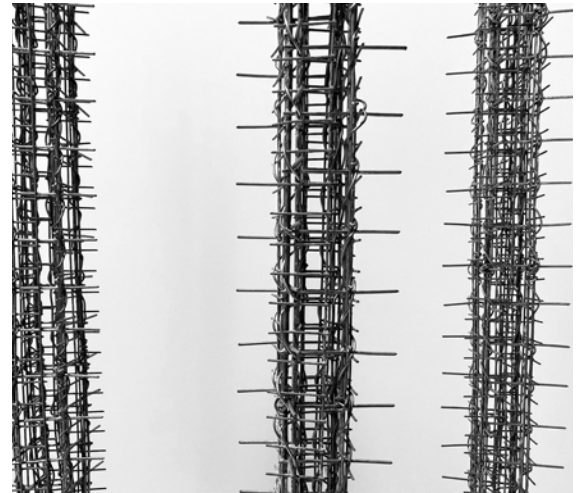


Image 02: Detail photo of metal cage

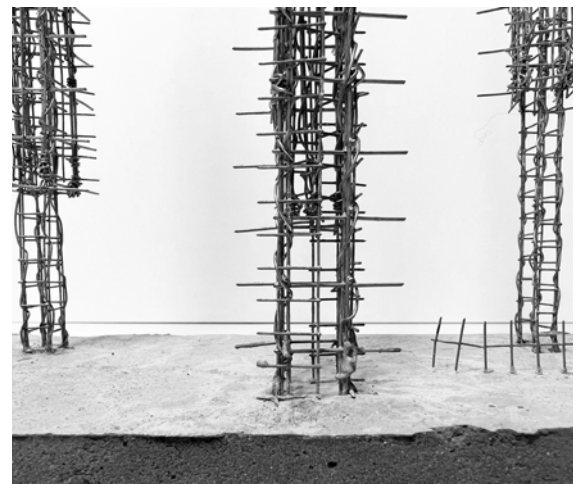


Image 03: Detail photo of interaction of cage and concrete base

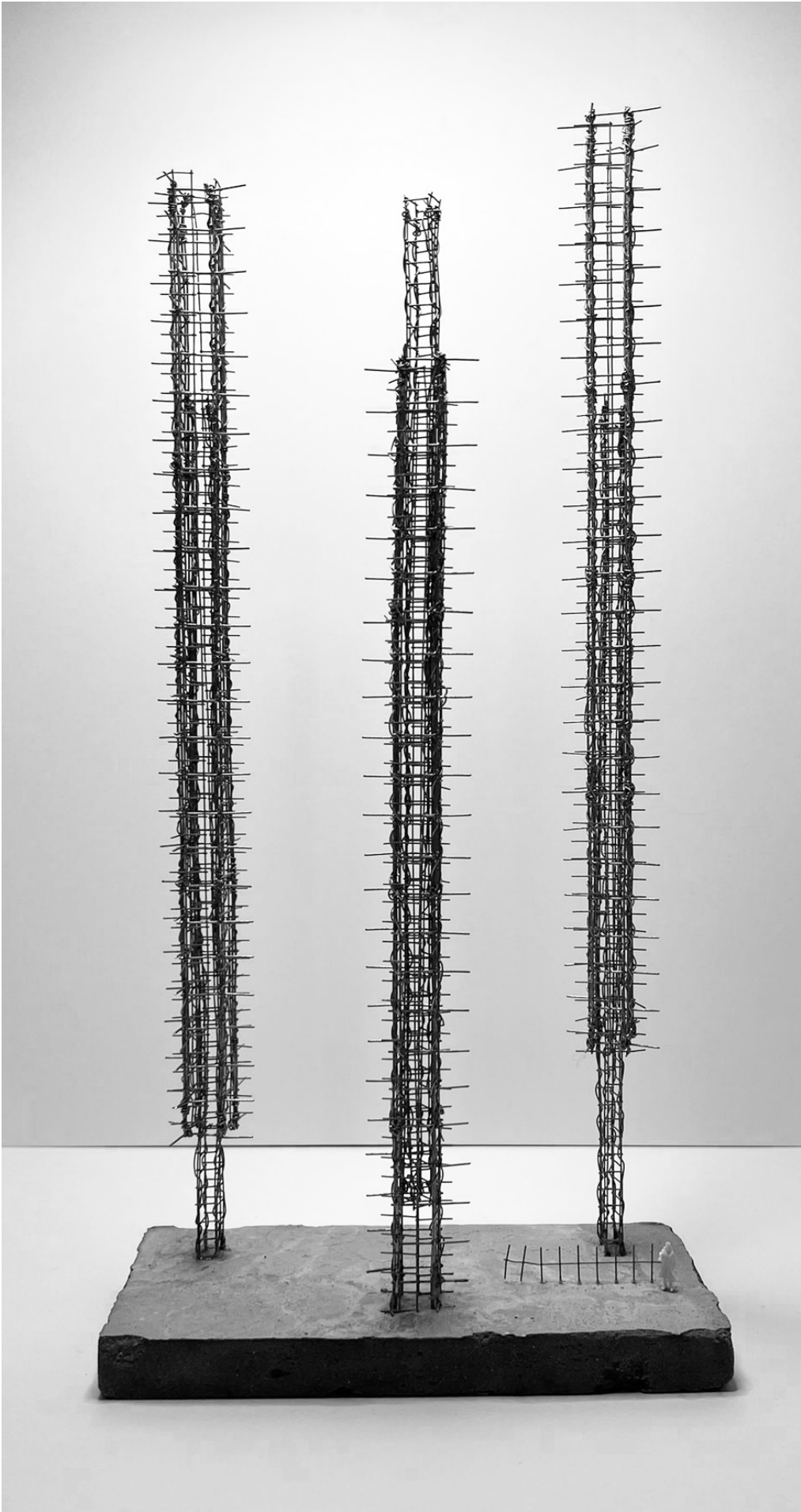


Image 04: Full shot - Image showing the overall model

Soham Sengupta

BA Year 1

Project: Studio 1.2: Making Connections

A Space For Creating And Displaying Ceramics And Glass Craft

The building arises in the bustling city centre of Manchester. The site is on the corner of Lever Street and Piccadilly in Manchester, adjacent to Piccadilly Gardens, a prominent public square. 43-45 Piccadilly is the site of a demolished building. The building involves three distinct ways of forming social and technical connections to a site, the people, and architectural space through the exploration of craft techniques:

- Craft as a making process
- Craft techniques as architectural design inspiration
- Craft as a programme for the public building

The building connects people to the city by celebrating Ceramics and Glass crafts. It shows the public the complete process of creating a piece and the finished piece. The building consists of a maker space to meet and make glass and ceramic pieces, a workshop with tools and equipment to aid in the creating process and an atmospheric volumetric public hall where architecture's physical and expressive qualities are centre stage.

Model Making was an essential part of my design development. The 1:200 volumetric models helped me picture how the building would appear on-site. I developed my design through such models as they were the most effective method of analyzing the building and what it offered. An interesting instance led me to change my design drastically. While testing a model, I realized that I could expand horizontally over existing buildings to create the desired floor space and make better use of the site by creating more space in a small area while also making the building feel like a part of the site

I had to make improvements various times to make the building more cohesive and functional until I arrived at my final design. After doing so, I made a 1:100 model of the building with a complete interior, green spaces, furniture and human figures to better understand the functionality of the building.

I primarily used mount board for the main building structure and balsa wood for additional support. I used blue acetate sheets for creating a glass facade. Foam sheets and textured papers were also used for interiors and landscaping.

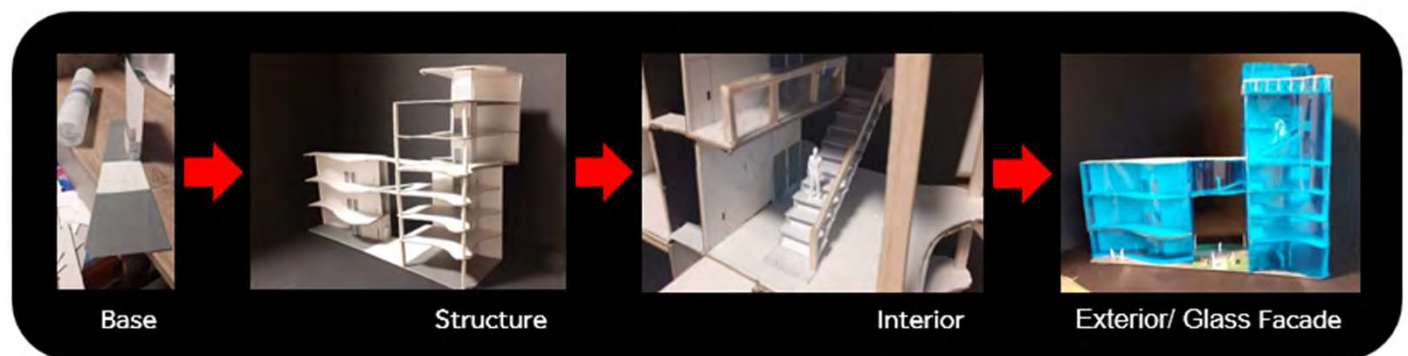


Image 01: Building Process

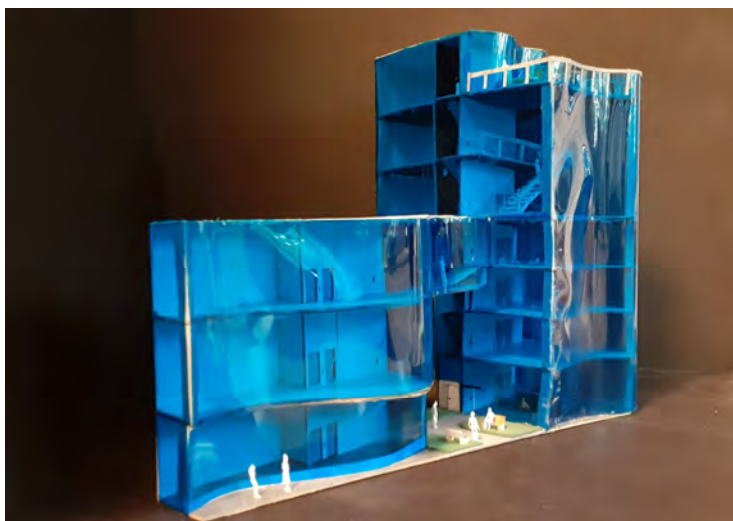


Image 02: Completed Building Model- acetate sheets, mount board and balsa wood

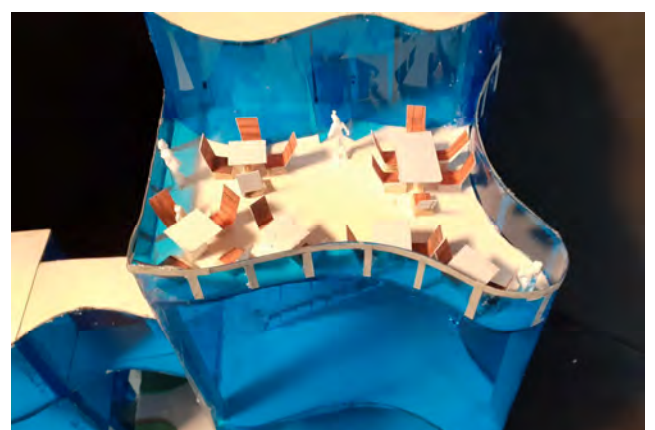


Image 03: Outdoor Rooftop Café- textured paper, balsa wood and human figures



Image 04: Building Structure And Interior- mount board, balsa wood and paper.

Image 05: Completed Building Model With A Green Space And Rooftop Cafe. Public Hall on the left and Craft Building on the right, connected by the bridge-mount board, balsa wood, paper, foam sheet and acetate sheet.

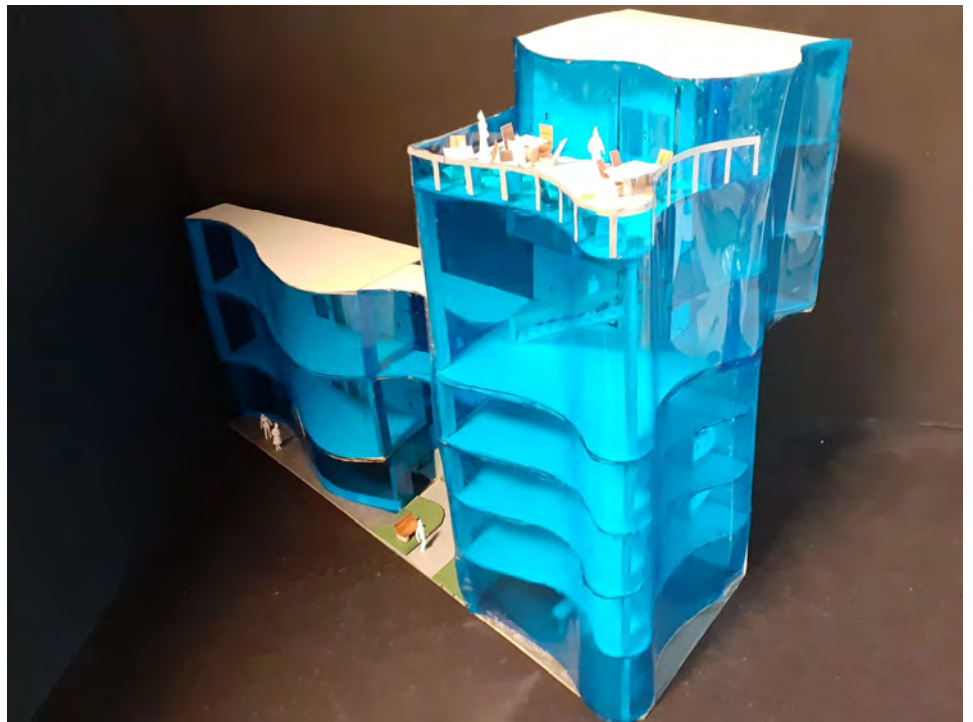


Image 06: Completed Building Model- the blue acetate sheets that form the exterior give the building the ideal glass finish.

YIRAN CHEN

BA Year 1

Project: Manchester bamboo craft & art centre
Studio 1.2 Maing Connection

The building is designed to provide an art centre for the public base on a craft. With the inspiration from the traditional bamboo weaving technique, I used bamboo strips and cardboards to experiment with the facade of the building. The purpose of the model was to find a balance between the old technique and the contemporary aesthetic with a simple pattern.

With the terrace on the first floor, it gives a shelter from the rain on the ground floor within the busy city centre. By looking at the image of sunset created by warm light, we can feel the atmosphere inside the building.

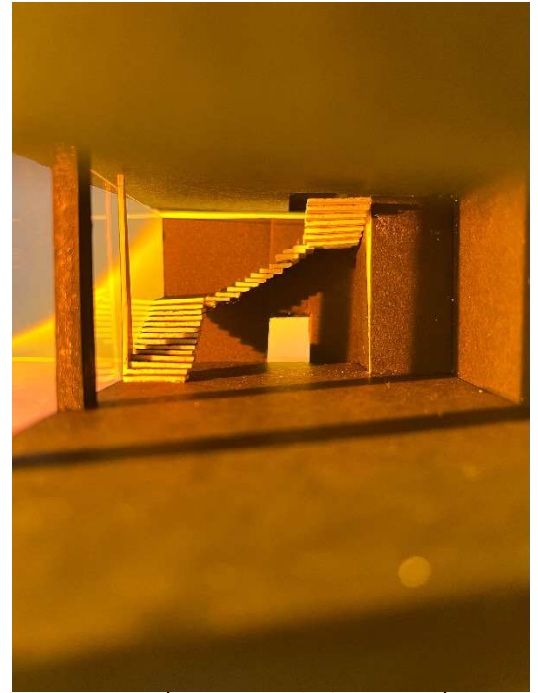


image 1 (interier with the sunset)

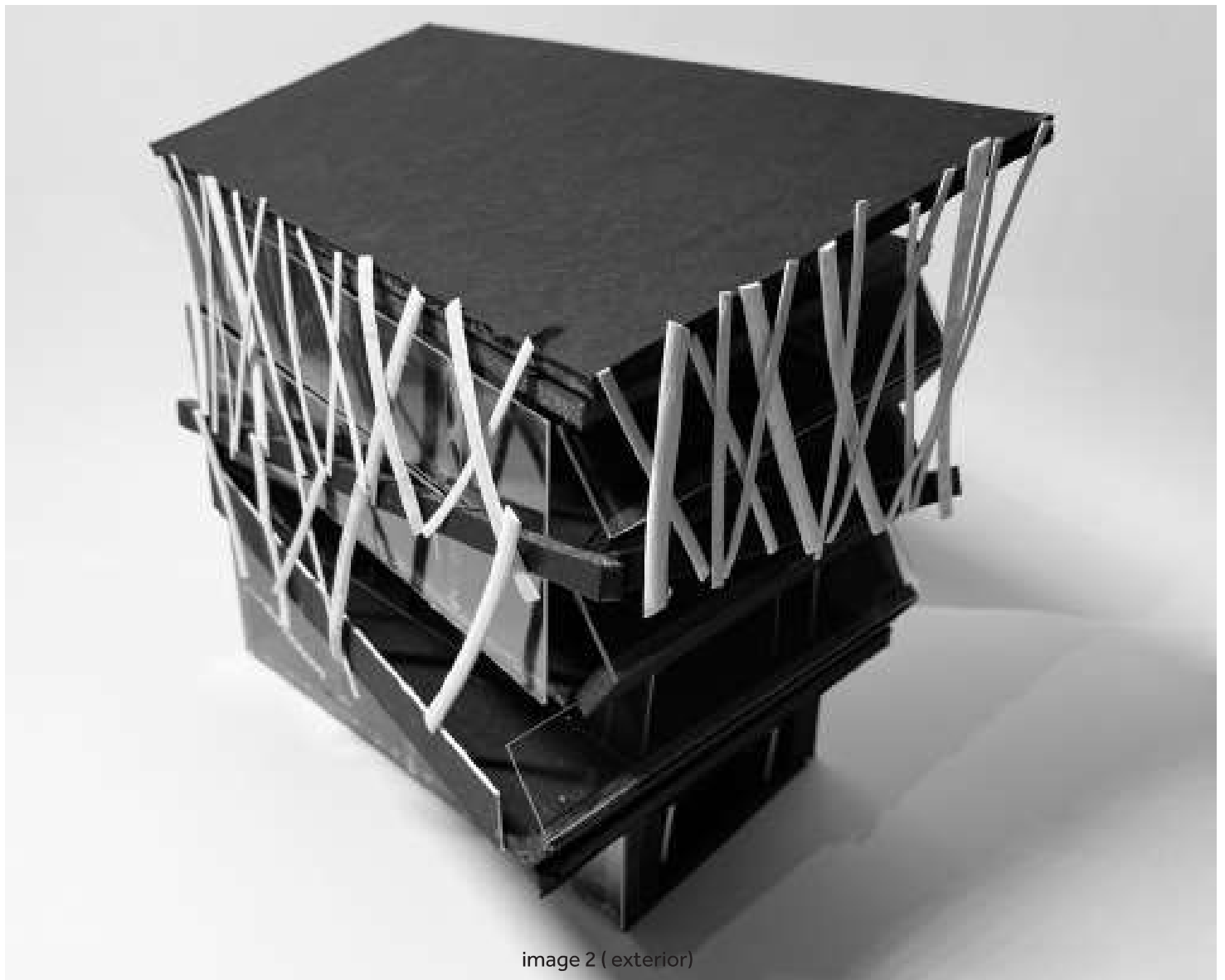


image 2 (exterior)

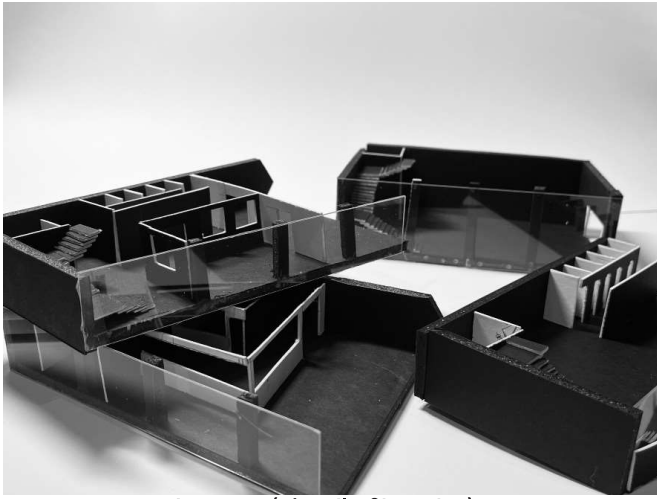


image 3 (detail of interior)

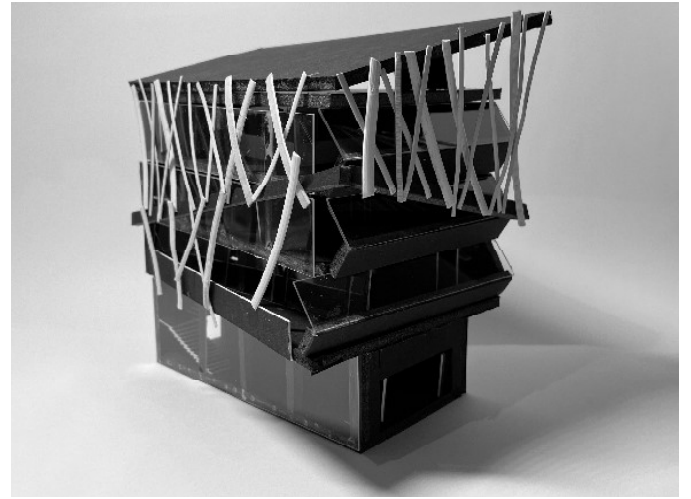


image 4 (exterior2)

The model can be taken off to see the interior design as well, so people know the relationship or sequence of internal spaces and the circulation.

To have a better understanding of the space, the entire model was handmade. The character of bamboo strips and the difference in materials can be shown not only by appearance but also by the touch of fingers. (model has been completed from home)



image 5 (pattern in detail)



image 6 (elevation)

Aaria Anand , Manchester

Ba 2

Project: Mapping the City

A sensory map analysing the influence of spice in creating modern Manchester

Created for a Humanities project, the layered model dissects the role of spice in mapping modern Manchester. Spice, once considered a rare jewel, marked a paradigm of exploration, mapping, and colonisation, changing the dynamic of cultures and creating a new era of globalisation. Modern Manchester stands tall on this as the UK was made the centre of power and the city later acted as a refuge for immigrants.

The base World map, made out of laser-cutting MDF, looks at the exploration and trade routes. Analysing the years when different spices entered the city, and the routes they took, one understands which cultures immigrated when, and the influence of spices across their cuisines. The height variations of the coloured threads (each represents a spice) reflect a change in time.

The map of Manchester, floating above, is scaled bigger and broken to show specific areas of the city that are defined by their multi-cultural inhabitants. The areas are placed above the cultures of their predominant immigrants, and hence, restaurants. Clear dowels make the layer "float" above, allowing viewers to clearly understand the cultural diversity in the city. Push pins on each area represent restaurants, and threads show how spices connect the cuisines, and hence, the people of the city.

Made both at home, and in the studio, the model interoperated multiple techniques from laser cutting, to natural dyeing. Laser cutting provided an accurate cut-out of the maps and persevered the detail. The threads were dyed in the spices they reflected, infusing them with the smell, and colour of them. This brings out the sensory experience of the spices, and invites one to use more than just their sight to understand it. The spice box alongside therefore acts as a key.



Image 01: Layers of the map

Using leftover MDF and grey board as the core materials of the map allowed for a strong, yet neutral base to be formed. Combining it with wooden pins, and pegs, the colour of the strings stand out against the monotone map, keeping the focus on the spice. Clear dowels allow the strings to be seen, and prevent the small map from seeming too cluttered.



Image 02: the spice box - a key to read the map
 Made out of MDF, the spice box acts as a key for what spice each colour of string is. Having the spices present on the key allows viewers to also smell and engage with it, The strings were infused in the spices, transferring their qualities to the threads. A plain white thread was used to show trade routes
 The map itself fits in an A2 page, making it big enough to see detail, but small enough to move around and restrict material waste.



Image 03 : Process of making strings
 The strings were dyed in their spices, transferring both visual and olfactory qualities

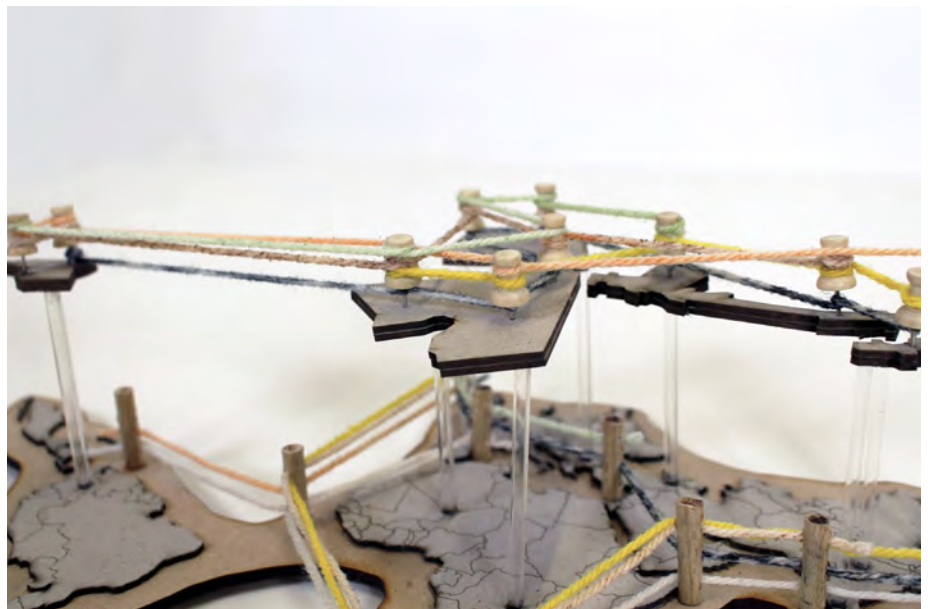


Image 04: pins represent restaurants in each area.
 The strings connect the pins, showing how they not only connect Manchester to other countries, but also tie different areas within the cities.

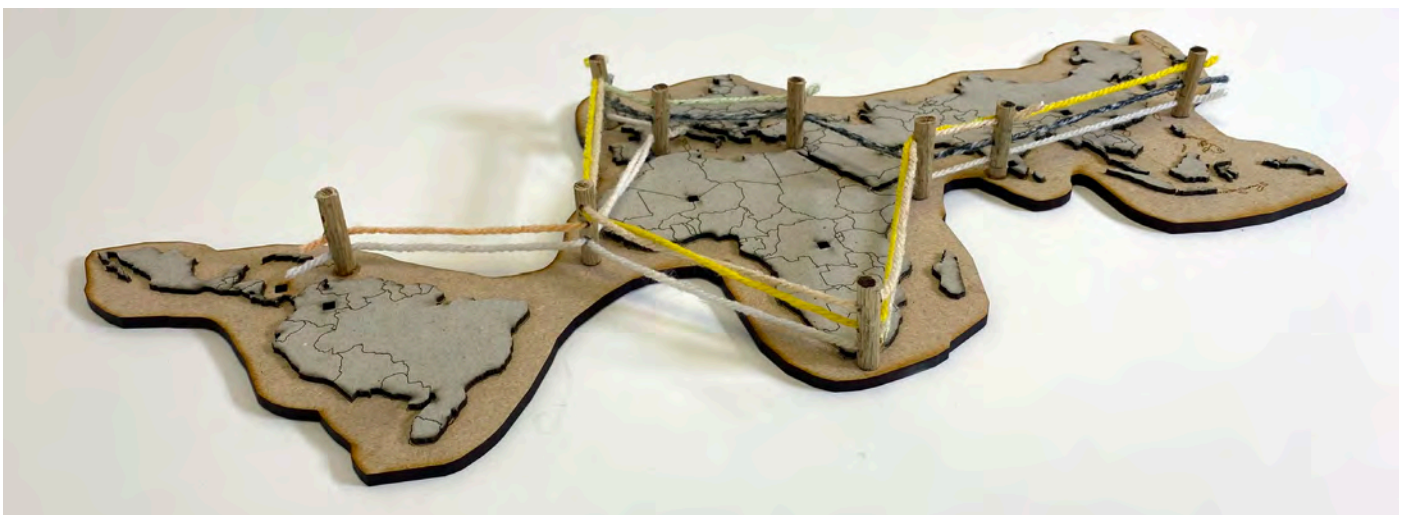


Image 05: Level 1 - spice on a global scale
 The map is essentially 2 layers combined. The bottom looks at spice on a global scale, whereas the top zooms into the city.

Adam Hartopp, Manchester

BA2

Project: Studio 2.2

PAD (Playhouse, Arthouse, Dancehouse)

This model is my exhibit piece for Studio 2.2. The brief involved designing an apartment building and rehearsal space for performing artists. My design consisted of two residential towers that were elevated over an urban plinth in which the rehearsal space was located. The urban plinth formed the landing of a bridge over the canal adjacent to our site and then had stairs down to a public plaza.

This model is a 1:50 sectional model that I made at home. It features the main rehearsal space and one of the residential towers. While featuring both towers would have portrayed the full design, I wanted to be able to transport the model easily and have enough time to produce details. I chose this scale as it allowed me to explore the structure and elevation in more detail than I had in orthographic drawings. It also allowed me to visualise my design in 3D which is very effective to exhibit my design to others. The model focuses on the relationship between the apartments and the rehearsal space. I wanted the apartments to be elevated above for privacy and to also allow uninterrupted and outdoor public access down the stairs into the performance plaza.

I used balsa wood as the main material for this design because of its ease of cutting to produce a professional finish to the model. I spray painted some elements red to match my elevation design which was inspired by the industrial context of the site. I used frosted polypropylene sheeting which I scored by hand to mimic polycarbonate panels. I also used greyboard to represent concrete.

An important feature of the model is the removable panel of the elevation. This meant that the inside could be viewed from both sides and helps people understand the relationship between the interior and exterior.

While this model was quite fiddly to produce all by hand, especially elements like the railings, I enjoyed the challenge and am proud of the standard of finish I have achieved and hope that it successfully portrays my design.

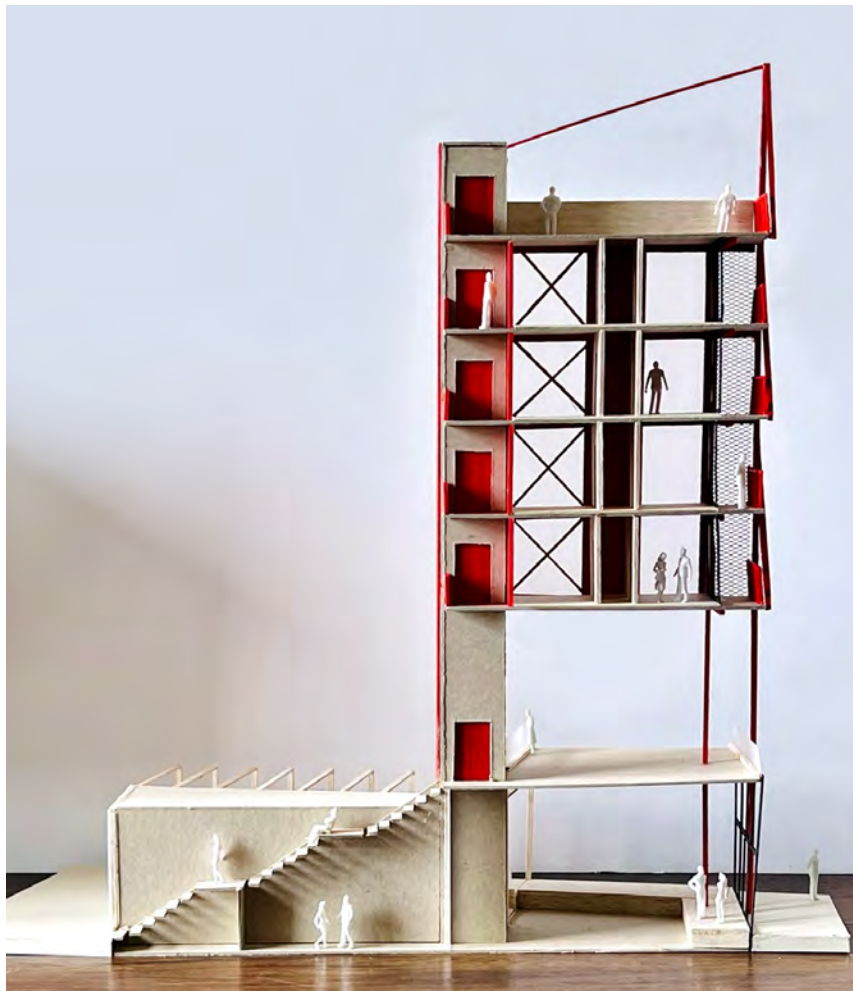


Image 01: Whole Model (section cut)



Image 02: Removeable elevation panel



Image 04: Inside rehearsal space



Image 05: Inside entrance atrium



Image 03: Whole model (elevation)



Image 06: Practice studio below stairs

Alexia Borcoman, Romania

BA Year 2

Project: Playhouse, Arthouse, Dancehouse

A community for housing performers

The project concentrates on designing a complex for the ballet community in Ancoats, Manchester. While a beautiful dance, its toxic environment is detrimental to the physical and mental health of the dancers. Apart from eating disorders, ballerinas retire at the age of 35. This leaves the artists unable to perform their passion in front of the public. The project offers a comfortable space for free expression while living in a stress-free environment that the retired dancers can perform in. Organic shapes and warm, earthy colours ensure a comforting housing and practice space.

As previously stated, curves and arches are key elements in the building's design. The 1:200 model explores those shapes in correlation to materiality and colour, using the roof as the focus point. It was made in a week in the workshop, involving MDF cutting and staining, cutting pipes and steel bars with a hacksaw, hole drilling, metal bending and spray-painting.

The form is an abstractization of the shape of the building, highlighting the focal point that makes the design unique. The design's simple, dynamic shape is showcased in a still frame, in a rough industrial style that enhances the materiality and the form rather than mirroring the design to perfection. Rough edges and 'blemishes' contribute to the tactility, its coarseness contrasting with the smooth nature of the roof's form.

The mainframe uses MDF boards that have been painted with a wood stainer. The structure is held together by a corrugated steel bar (12mm) concealed by a copper pipe (14mm). Nylon wires span between the two boards, offering support for the roof structure. The roof is made out of five layers of metal mesh sprayed with a copper finish and is elevated using metal crimp beads.

Choosing the material for the roof proved to be particularly challenging, provoking my thinking process. The final choice allowed the design to evolve, augmenting the 3-dimensional form and its tactility.

All the materials except the beads are scraps from the workshop. Consequently, the model is a statement of re-usability and sustainability in itself.

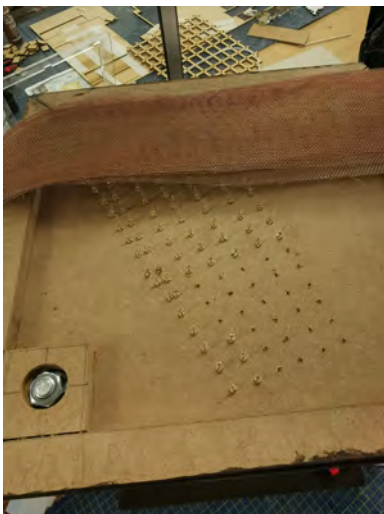


Image 01: Tying the nylon wires



Image 02: Stretching the wires between the MDF panels



Image 03: Hanging the mesh roof

Image 04: Final model



Image 05: Detail - elevating strategy

Ashlie Ho, Ariel Wong & Han Phan, Manchester

BA2

Project: A Community for Housing Performers // 1:500 site model

53°29'11"N 2°13'36"W

The Silk Street site is an empty lot located on Ancoats' northern edge. Now used as a parking lot, the project brief seeks to provide accommodation for performance artists in Manchester, where each dwelling would house 1 to 6 occupants. This site model at 1:500 was made in the B15 workshop by 3 groupmates across 2 studio groups. The model was made to form the base for testing out iterative models, and also was explicitly made at this scale so that we would be able to get a better grasp of the site's context at a wider scale, allowing us to see how our massing models would sit on the site.

Although made at 1:500, which was quite a small scale, our group tried to include as much detail as possible - using wood blocks as buildings we carved out each and every roof in detail, communicating the architectural language and building typology of buildings around the site. By carving each of the blocks by hand we slowly developed a better grasp of how the surrounding buildings sit and interact with each other, allowing us to develop different design iterations in response to the site context.

During the modelmaking process, there were several discussions over the finish of the model, and at last it was decided that the model base would be painted black, and the wooden building blocks would be left raw without any finishes to achieve a more raw look, saluting to Ancoats' industrial past.



Image 01: Top view of model



Image 02: Building roof details



Image 03: Gaps in the urban fabric of Ancoats & post-producing the image for building typology site analysis



Image 04: Massing models placed in site model by Han Phan



Image 05: Massing models placed in site model by Ariel Wong

Charlotte Ellis, Manchester

BA Year 2

Project: Studio 2.1 Nourishing the Community

Nourishing the Community was a project which aimed to design a cookery school, food hall and market, primarily designed for the local residents living within Manchester city centre. The proposed site is located on a triangular plot of land in the Knott Mill area of Deansgate in Manchester City Centre. One of the key focuses of the project was to preserve the site's historic context and create a concept which would not impede on the heritage of the area.

The site model with the proposed design was made at 1:200 scale using grey board. This was made individually at home with recycled grey board used where possible. The initial purpose of the site model was to test various concept models and ideas to identify which designs would be more fitting to the surrounding context.

Images 01 and 03 provide views of the site at present with no proposed development whereas image 02 displays the initial concept stage and an initial design which looks to maximise floor space at the site. Image 05 displays the final concept stage which includes chamfered corners and a balcony level on the north elevation.



Image 01: View of Deansgate towers dominating the proposed site.



Image 02: Initial concept model to fit triangular shaped site.

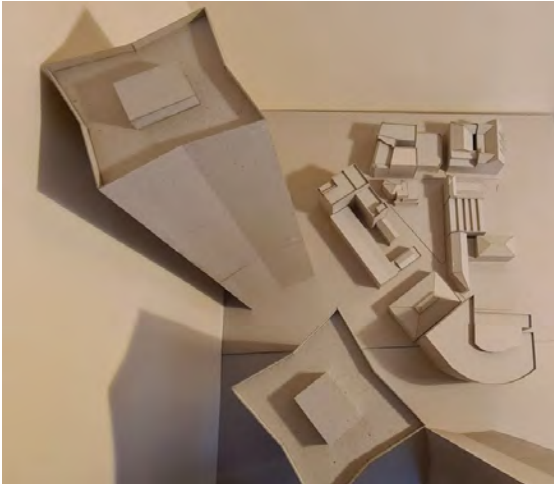


Image 03: View of the site from Penthouse level of Deansgate South Tower.



Image 04: Plan view of proposed design in context with the Knott Mill site.



Image 05: Final concept model in context with surrounding site.

Teodorescu Daria-Ioana, Manchester

Ba Year 2

Project: Playhouse Arthouse Dancehouse A community for housing performers

Sculptors and potters housing and workshop scheme

The project's theme revolves around designing inclusive living spaces for craftsmen, allowing them to carry out their activities in a community-centered environment. Due to the distinctive geological history of the area, abundant in resources such as sandstone and clay, I focused on artists such as sculptors and potters whose work is dependent on water.

The model showcases key elements of the building: the external exhibition located on the first floor, the workshop area where crafting lessons take place and the courtyard. The exhibition space displays works of students and their masters, expressing the symbolism of the craft to the public. The proposal aims to offer a better understanding of the relationship established between its key workshop and exhibition areas and the connection with other environmental features – particularly, the greenery areas and the small water basins, extruding the living units' part of the model for clarity purposes.

The model's build was done at home at a scale of 1:50, with materials that convey my design intention to create open, lightweight spaces, where only load-bearing structural elements are reinforced. Inspired by the Industrial Revolution's detrimental effect on people's quality of life and access to clean water and sanitation, the model highlights growth opportunities through the use of bright colours while reinforcing those consequences are still present by using black as the main colour for the ground and walls. In theme with the exhibition's focus on natural processes and building features, the model highlights a gradual evolution from a darker period in history to modern sustainable living. Sturdier, darker components made of black foamboard merged with grey cardboard surfaces and balsa wood pallets highlight the shift to brighter, more hopeful times. Stabilized lichens representing greenery elements and small water basins made of white sheet components are located in the thinking corridor, while the balsa wood pieces with a sphere on top depict focus areas that compose the model's landscape. Having natural elements as design drivers, the essence of the project is conveyed through this exploration of spatial composition which is highlighted by the model.



Image 01: Top view of the model depicting all the spaces featured within it

Image 02: Corner view of the entrance of the workshop- the room full of greenery and nature is the first space while stairs lead to the exterior exhibition

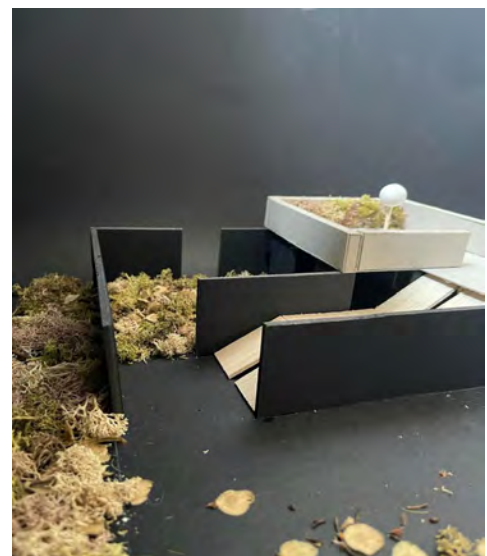




Image 03 : Key view of the exterior exhibition surface, showing how it relates to the other spaces located on the ground floor

Image 04: Image presenting the details of the threshold in between the interior exhibition- the dotted cardboard surface and the exterior courtyard

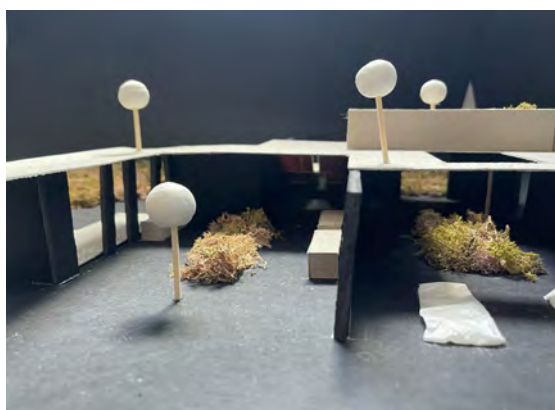


Image 05: This image highlights how the thinking corridor (located on the right side of the picture) and the courtyard (left side) and the exterior exhibition merge together.



Image 06: Lighting detail throughout the day, exploring the quality of sunlight coming into the space located underneath the stairs.

Josh Wu , Hong Kong

Ba2

Project: Metamorphosis, A Home For Artists

The brief to this project is to built homes for performance artists in Ancoats, Manchester. I proposed a series of modular, customizable units for artists around the site, with a centre performing stage that glues the community together.

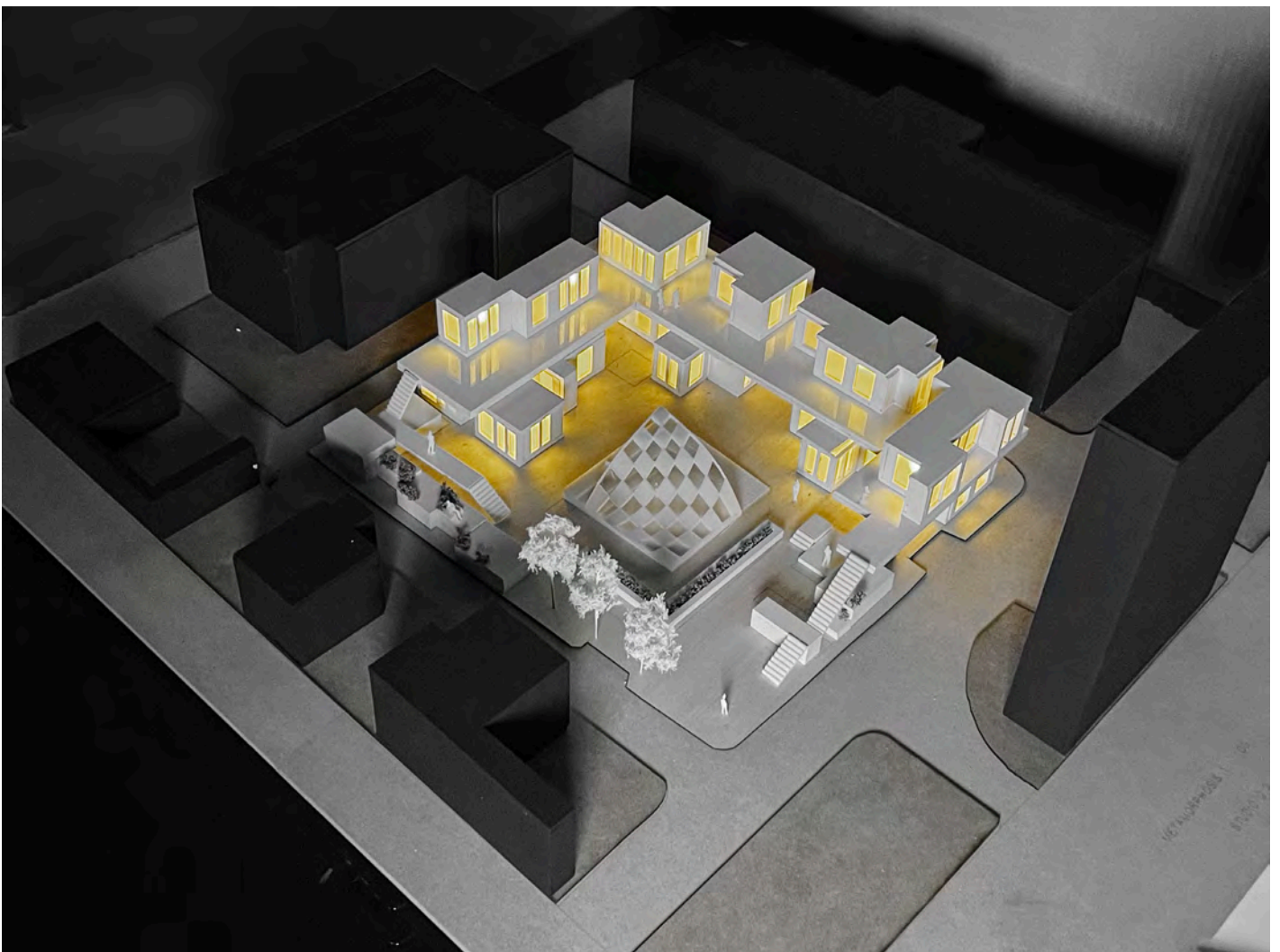
As occupants come and go, their units are demolished, and the standardized modules are then reused to create another tailored space for the new occupant, hence the different shapes of units around the site. The centre stage distincts itself from the private spaces with a bold curve. It holds the community together as artists practice and perform there daily. Facing the other residents, this encourages conversation among artists and fosters a space for improving their craft. The openings and pocket spaces throughout the proposal offers a relatively private space for individuals to mingle, so that both formal and casual conversations can be generated by the centre stage.

This is a 1:100 model with site context made in B15 workshop, in hopes to fully demonstrate my proposal.

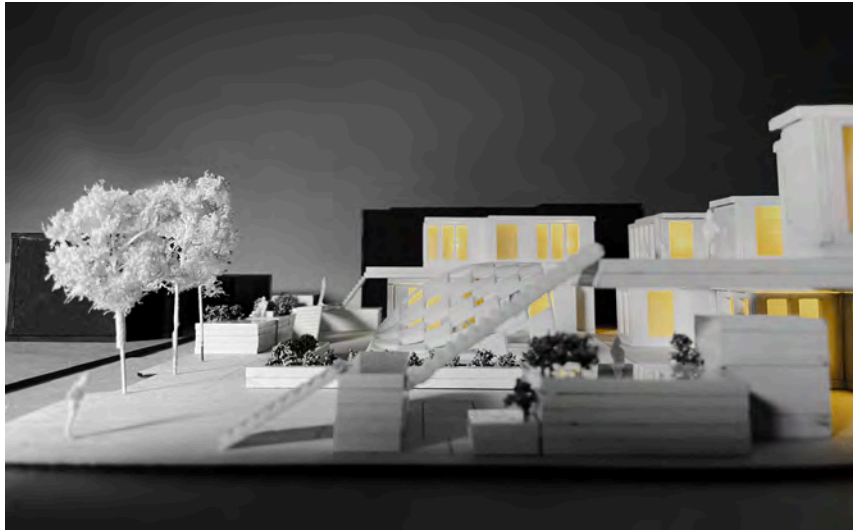
The base of the model is engraved MDF to show North-point and scale, as well as help me position my pieces on it. The surrounding pavements and site context is made from laser-cut MDFs, with the latter painted black.

Plywood is used as the base of my proposed design to distinguish it from the darker elements around it. Then, the residential units, stairs and pocket spaces are created with laser-cut white acrylic, with an additional layer of frosted acrylic behind the windows. Yellow LED lights are then used to illuminate the housing.

Finally, the stage is 3D printed to accommodate its double-curves as well as fitting the white aesthetic of the model.



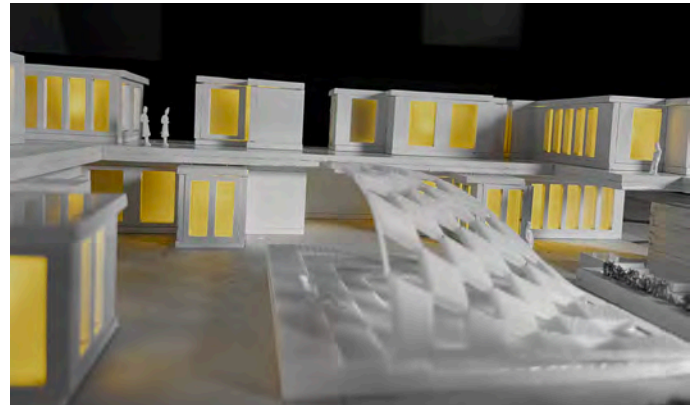
Full aerial view



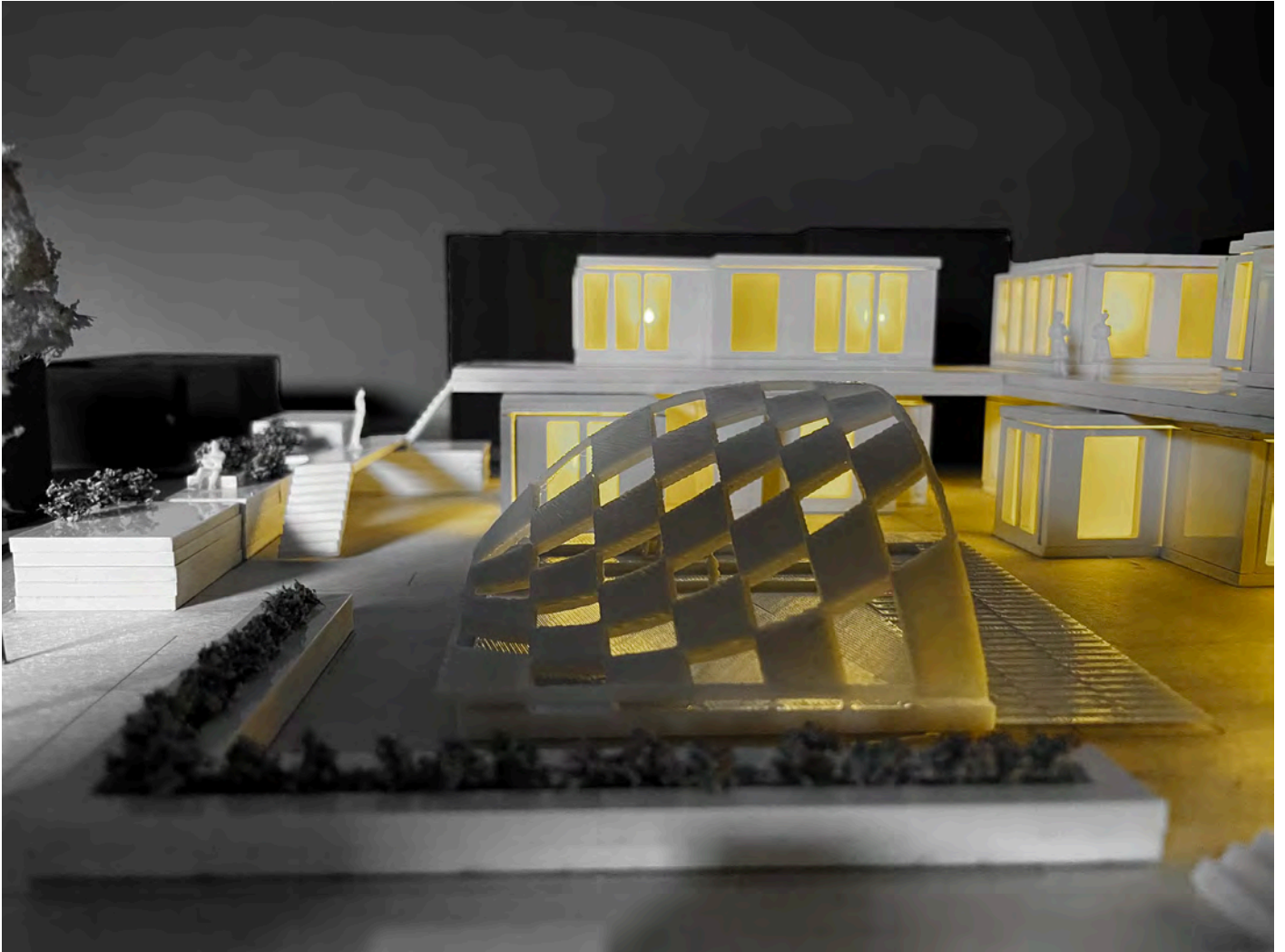
Side View of Courtyard



Modular Residences



Centre Stage



Contrasted yet Harmonized Geometries

Maria Pena, Manchester

BA Year 2 - Group 5

Project: Playhouse, Arthouse, Dancehouse

A community for housing performers.

Ancoats is a thriving city quarter, but there are still gaps in the urban fabric and evidence of social inequalities. The brief asks to create a performative art venue with ancillary accommodation for artists, that would attract visitors and enhance the culture of the area.

The old mills that surround the site give a sense of silence, lack of colour and sobriety. The performance art I chosen is mime and it matches the area perfectly. But mimes can explore deep emotions and thoughts and express themselves in a way that brings life to the old area. Ground floor is public and has a stepped auditorium with stage, a café and a main hall. Top floors are private and have workshops, housing units and a core void surrounded by corridors and balconies. Since mime performances are nowadays spontaneous, balconies act like practice spaces; students walking around observe the public and mime their moves, expressions and behaviours.

The models show the internal configuration of the concept and key features. The first one presents the configuration of each floor and the external details. It is made of cardboard, metal wire and metal gauze. The other one presents the main elements of the final design in a more abstract way. I used clear acrylic for the floors, partition walls, roof and cladding so that the attention is drawn to the interior. The main hall, stage, balconies, bridge and vaults are made of frosted acrylic in order to be more visible. The vertical circulation elements, such as stairs, lifts and ramps are made of red plastic and stand out from the rest of elements. The river is represented with blue clear acrylic and it contrasts the rest of the model. For the surrounding buildings I used a different technique; massive wooden blocks are best to show their robustness. For the base I created a wooden frame which allows to put a light installation underneath the concept. The light makes it feel alive and highlights the main aspects of the model.

The two models complement each other. First one is made at home, at an early stage in the design process. The second one is based on the final design and is meant to be done for exhibition. It was made at the workshop, since it required more techniques and materials.

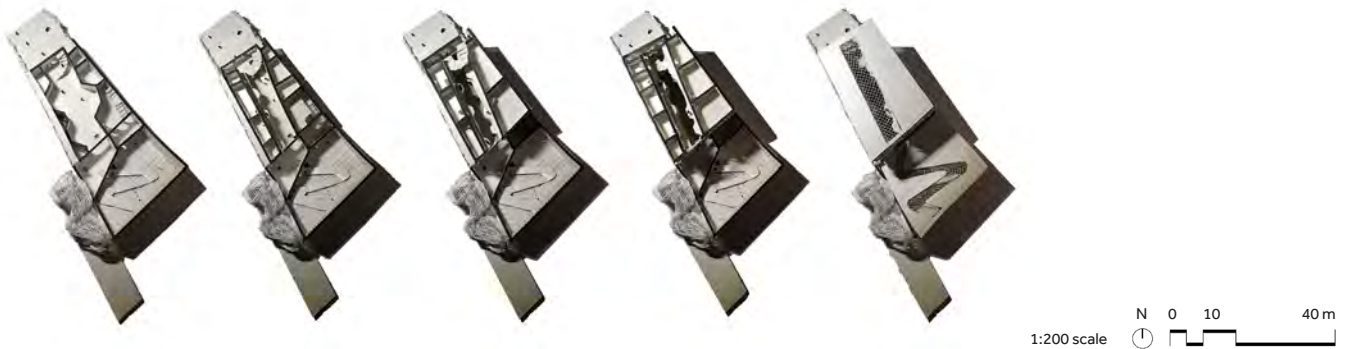


Image 01: Floor to floor configuration model; cardboard, metal wire and metal gauze



Image 02: External view of the developmental model; cardboard, metal wire and metal gauze

Image 03: Close up of the final model, showing vertical circulation, access and routes; clear acrylic, blue transparent acrylic, frosted acrylic, red plastic, wood

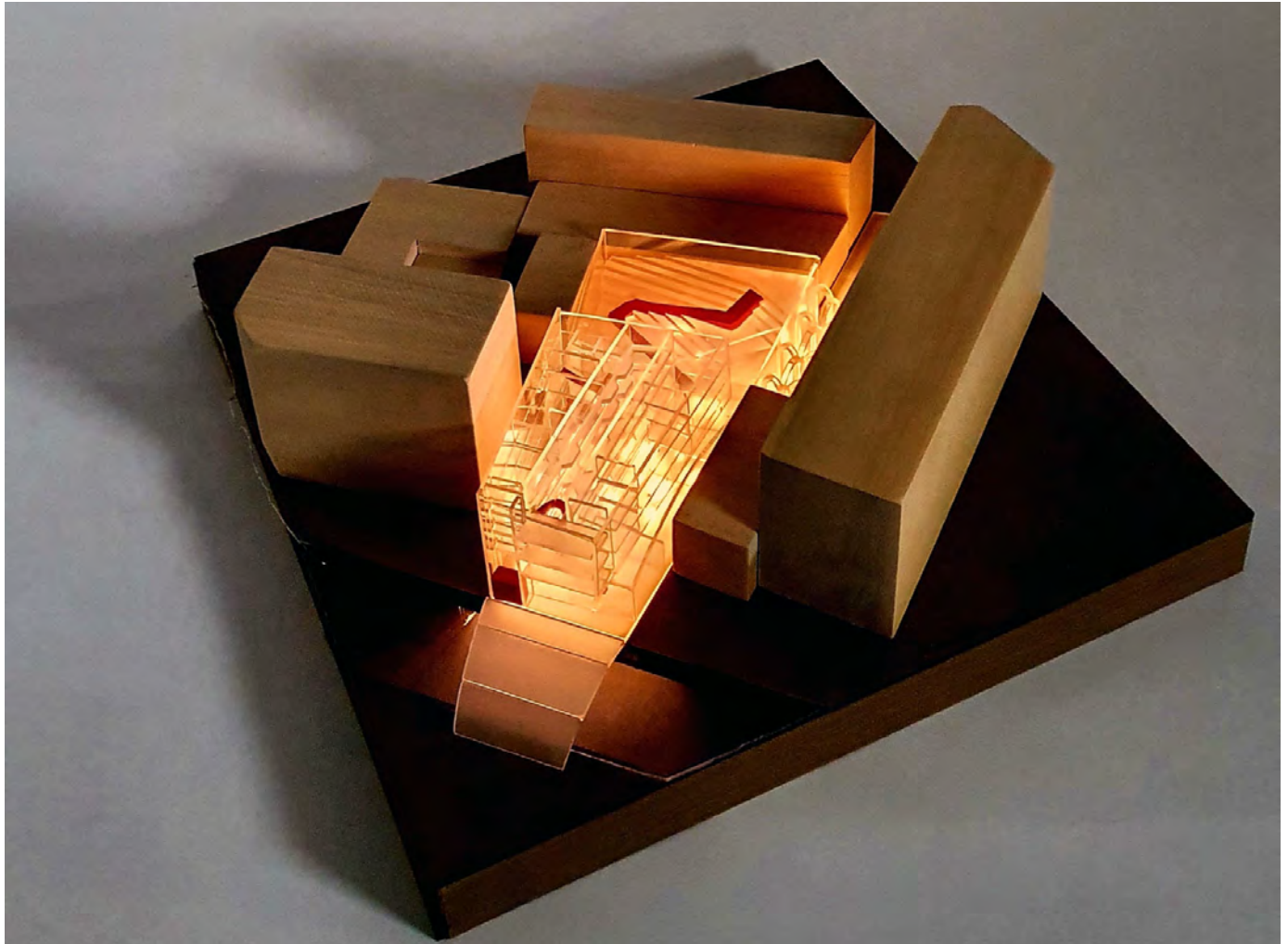


Image 04: Final model; acrylic, red plastic, wood, light installation

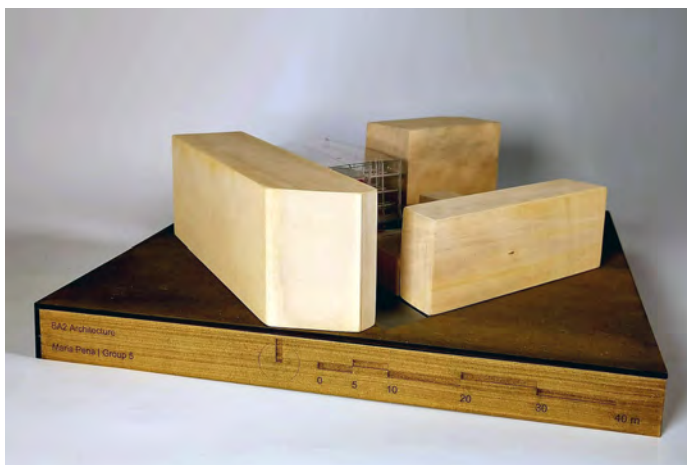


Image 05: Final model with base; acrylic, red plastic, wood

Rana Budianta , Manchester

BA Year 2

Project: Spaces to Walk, Spaces to Write

A community for housing performance poets

The scheme is a complex of housing units specifically designed for performance poets. It is meant to be a poet's oasis, for them to be able to write poems, rehearse, exchange ideas, and even perform. Based on Simon Armitage's interview (the current Poet Laureate in the UK), there are two crucial spaces for poets: **the spaces to walk and look for inspiration;** and **the spaces to sit and write ideas and the poem itself.** Therefore, the communal area / pathway was designed for them to essentially be able to walk around the whole scheme while the residential units took particular attention to seating spaces for writing with the use of bay windows, bean bags, hammocks, chairs with table, etc.

This 1:50 sectional model is cut at the area where the residential unit meets the communal performance space; not only to observe the contrast between them, but also how they complement each other. The pathway outside is the "spaces to walk" mentioned earlier. Located next to a canal, this model also shows how the performance space encourages relationship with it. The design is stepped due to the site only getting exposed to afternoon sun from the direction of the canal, where both the clerestory windows of the residential unit and the large window of the performance space face.

This model was done at the B15 Workshop using dyed timber blocks for the base, laser cut MDF and plywood, with acrylic to represent the canal. Laser cut was used not just for a clean look, but also accuracy, especially in scale, of the facade (the timber strips and brick slips). The furnitures were 3D printed so they could be customised, then spray painted white.



Image 01: Bringing Light In



Image 02: Canalside Poet's Oasis



Image 03: Private - Public



Image 04: Public-Private



Image 05: Performance Space



Image 06: Residential Unit

Richard Nemcek , Manchester

BA Year 2

Project: Housing for Artists

Temporary Accommodation for Musicians

The aim of the project was to design housing for artists of any kind with provision for both day-to-day routines as well as for rehearsal space for exploration of chosen art in culturally rich area of Ancoats, Manchester. My personal response to the brief was by creating temporary accommodation for young musicians in form of both co-living houses for larger groups and studio apartments for individuals. The main design approaches for the housing scheme were to create ideal sound conditions for the musicians in the rehearsal spaces, provide recreation spaces for all residents and last but not least, to respect the surrounding architectural context of Ancoats.

The 1:100 model shows sectional cut across the courtyard in the middle of the site. The view is concentrated on the exterior of 3-storey building which includes four co-living houses for the musicians. The main purpose of the model was to demonstrate several key elements of the development. Firstly, the building itself and its key design features. These include the arch columns on the ground which create space for covered walk-path that encircles the courtyard, the voids between each room which maximise sound insulation between the individual rehearsal spaces and thus improve sound quality, the houses' large balconies on the top for recreational purposes and the butterfly roof which optimise rain-water collection that is later stored in the pond. Secondly, the mentioned courtyard and its different parts for different uses such as a fireplace area for evening gatherings on the one side and seating area for studying or rehearsing by the pond on the other. And last but not least, the dominance and importance of greenery which is an inseparable part for both the building and the courtyard in order to create a tranquil and natural environment.

The model was largely made of MDF which parts were cut in a laser cutter in the workshop and later assembled at home. The further details of greenery were created by using artificial foliage to mimic bushes, small stems for trees, scatter grass powder and blue paper for the pond. The transparent balcony fencing was made of plastic PVC sheets.

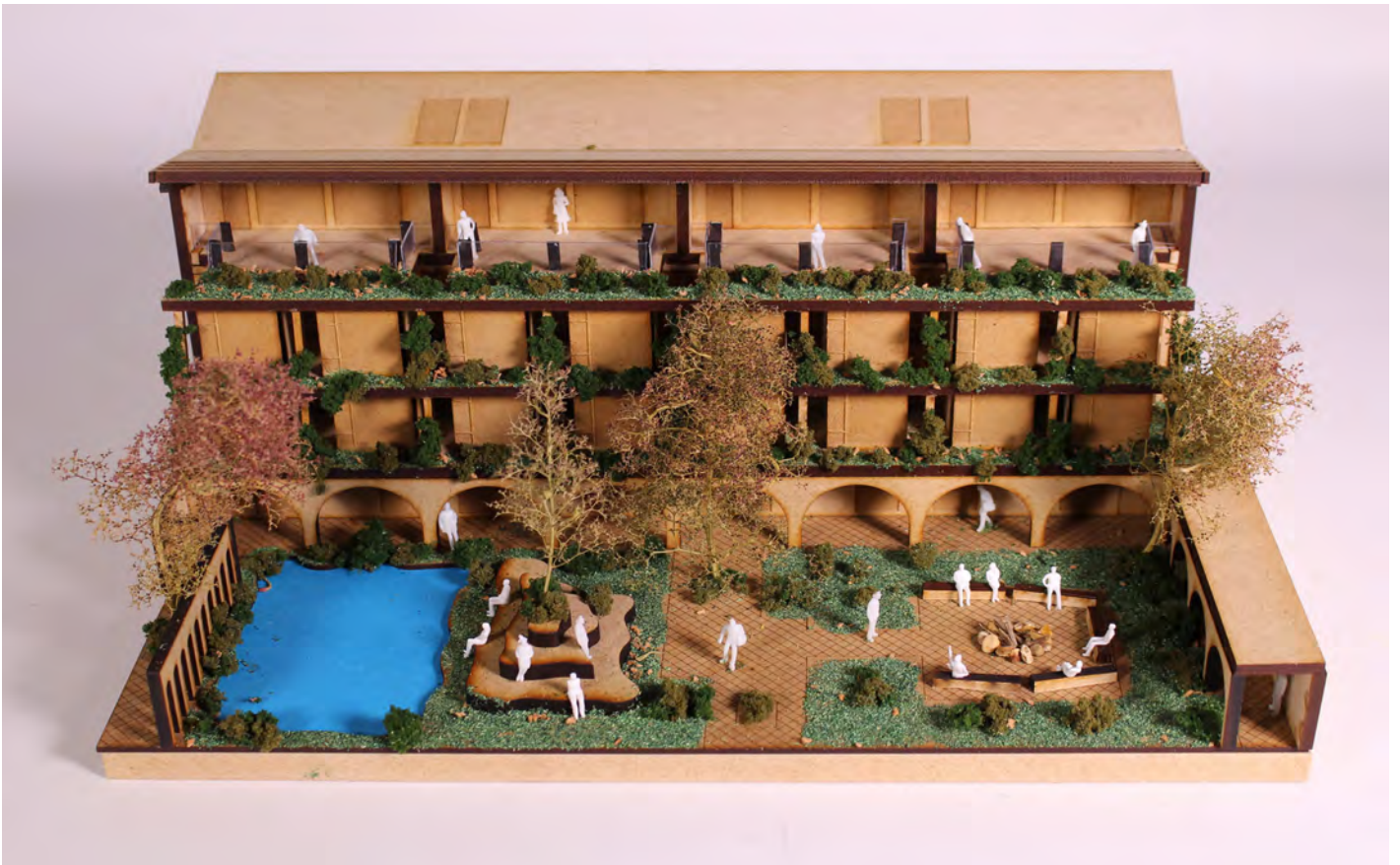


Image 01: Perspective view of the model



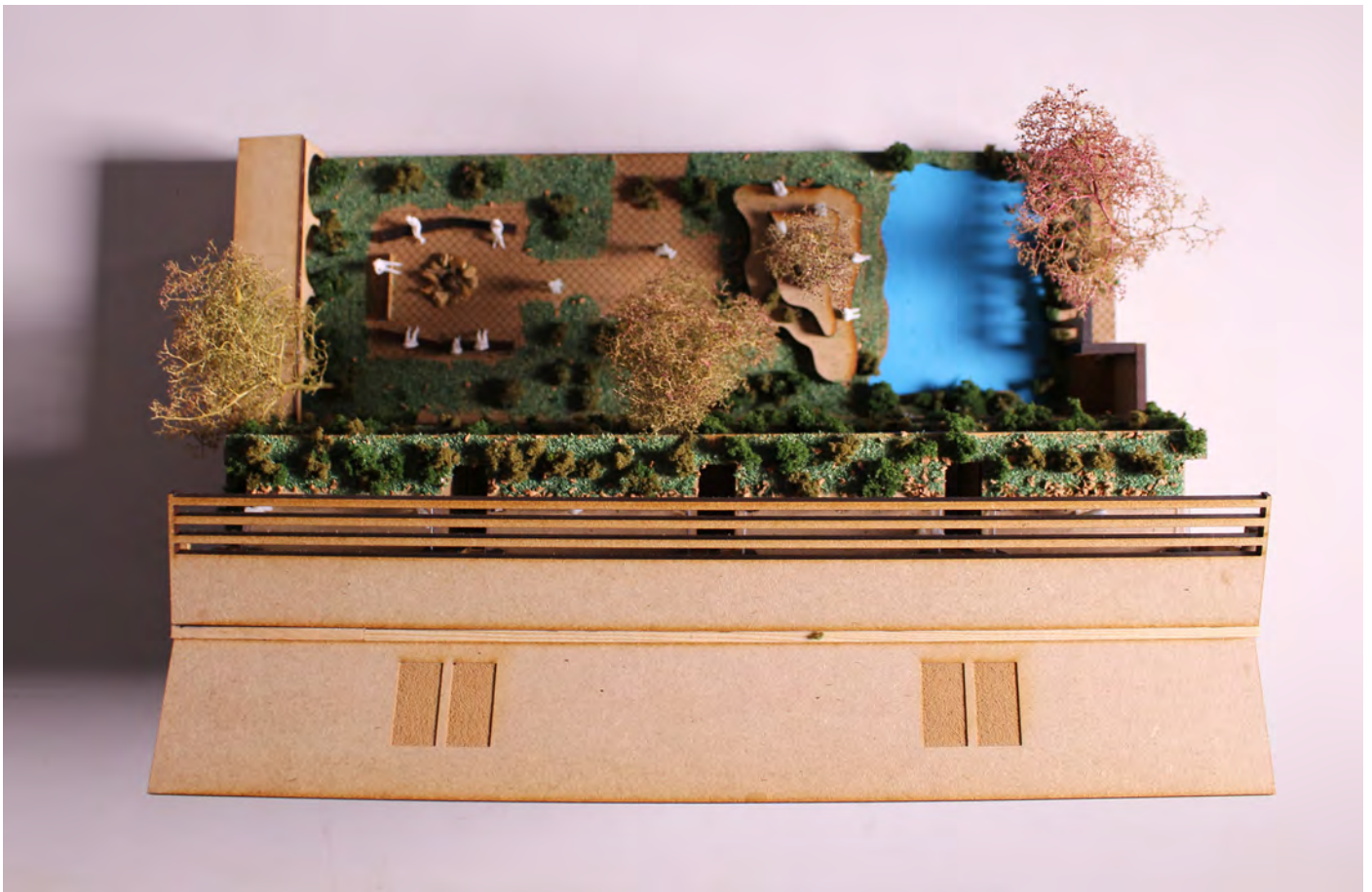


Image 02: Top view of the model



Image 03: Zoom-in on the fireplace area



Image 04: Zoom-in on the seating area by the pond



Image 03: Eye level view to the courtyard from the covered walk-path



Image 03: Detail view of the greenery on the building's overhangs and columns

Saffron Parker Mitchell , Manchester

Ba Year 2

Project: Playhouse/ Arthouse/ Dancehouse

Final Exhibition Model

The project brief was to design a creative space, able to house performers and give them a space to share their talents with the wider community in some form of performance space.

With the dynamic Ancoats housing the site, I focussed on designing a space for buskers and other travelling musicians massively impacted by Covid.

The purpose of the model is to create a tangible form that best represents the design with the materials chosen specifically for their mass and finish. The design is reliant on masonry as it attempts to unite the changing face of Ancoats with the 19th Century industrial architecture of the site, therefore I felt that all these elements needed to be represented in something with real mass.

Hence, the result is a scale 1:100 model made of primarily clay and plaster though reinforcement comes from plaster bandages and wire mesh. The plaster was initially very difficult to work with, having never used it before and having worked on it solely from home, and understanding how to form the moulds and cast the plaster in a way that wouldn't leave it too brittle to take the weight of the other pieces was a challenge which required a lot of trial and error. The arch was also a challenge as I initially hand moulded it from clay to match the accommodation huts on the roof but shrinkage as it dried changed the form too much meaning the final model had to be modelled from multiple layers of plaster bandages. However, interestingly, though initially inspired by a Catalan arch, the resultant process mirrored that used by the architects who designed one of the main precedents, Bricktopia in Barcelona. Hand modelling the arch in clay early on also helped the design to develop as hitherto most of the design work had been done digitally in Rhino making it a challenge to create an organic or fluid form which is what was the desire for the arch and this modelling process with the clay and wire helped to resolve this issue and create a form which tied the adjacent residential space and the surrounding architecture to the venue.

Image 01: Final digital model for context



Image 02: Site approach from Spectator Mill (adjacent)



Image 03: Birds eye view of site

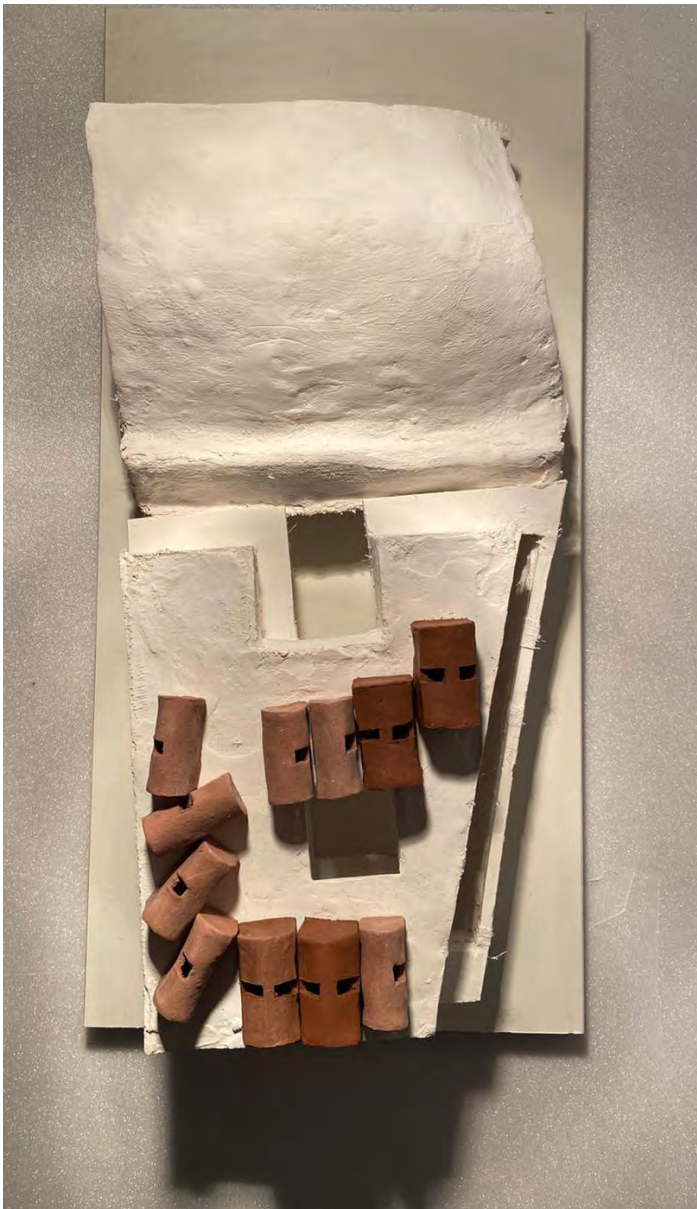


Image 04: Site view from canal



Image 05: Residential areas courtyard (arch removed)



Image 06: Elevation from Hope Mill Theatre



Cara Russell

BA Year 3 - Atelier: Continuity in Architecture

Project: Amongst the Mills

Reigniting the momentum of Accrington's industrial past

This intervention aims to bring back the old calico weaving and printing processes through an abstracted stack of industrial typologies. A brick chimney spiral staircase threads the shops, cafe, workshops, library, teaching spaces, auditorium and exhibition space together. Industrial typologies are stacked at angles to frame portraits of the old mills, 'ghosts'.

Adaptive reuse reveals a structural frame which is used as a starting point for the cantilevers. Timber steel braced frames are hung from the load-bearing chimney. The structural components are exposed on the interior, revealing junctions between new and old, a reflection on its context. Recycled and locally sourced shingles form 'coats' around the typology's skeletal frame, relating to their interior use.

This 1:50 model depicts a corner sectional cut, revealing balconies and resultant spaces formed through the twisting and extruding of forms. Using laser cut MDF in the B.15 workshop, the pieces are assembled in sections. Wood stain picks out variations in the individual coloured recycled plastic shingles, and slate shingles, which are layered onto the facade. The skeletal dome frame is clad in a painted card, to imitate textures on the roof. Thin flexible MDF is laser cut with brick patterns and stretched around the chimney frame to illustrate the brick cladding. Differences in texture and coloured wood stain displays the individual cladding systems coating each typology.



Image 01: Corner model exterior



Image 02: Corner model interior structure

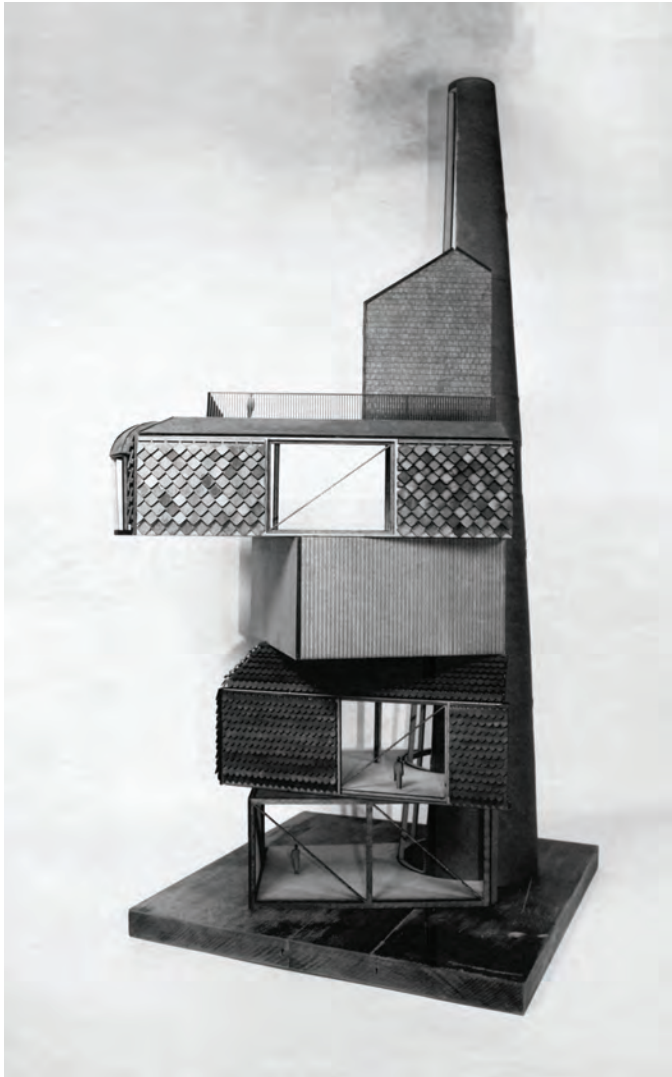


Image 03: Corner model elevation



Image 04: Corner model section structure



Image 05: Library space interior



Image 06: 'Recycled plastic shingles' - stained MDF

Fanny Bois-Berlioz

Bachelor Year 3 - Atelier: CIA

Project: The Kilns of Accrington Urban Encounter and Exchange

The brief, Encounter and Exchange, calls for a design that will host an Art and Craft centre for pottery and ceramic making which will serve as a point of connection for the people in Accrington. The proposal "The Kilns of Accrington" is a project that reuses the original Town Hall extension of the city, built in the 1970s. The aim is to reconnect with Accrington's tradition of ceramics with pottery workshops, an auditorium, studio spaces and an art shop.

1:200 Contextual model

This contextual model represents the connection between the proposal and the surroundings. The atmosphere of the city is created by having the site model laser cut with details on the facades and the roofs.

It was difficult to recreate the curved facades at a scale of 1:200, however by engraving a very thin MDF board with the laser cutter with vertical lines every 1mm and horizontal lines every 5mm a similar effect was achieved.



Image 01: 1:200 model, East view.

1:50 Sectional Model

This structural model expresses the relationship between the brick cladding and the internal structure with the concrete columns and the wooden floor.

The primary structure in MDF, with the floor slabs and columns, was laser cut and spray-painted in white. Thin strips of corrugated cardboards are glued for the insulation and balsa wood represents the ceiling. The MDF bricks are spray-painted by layering orange, red and yellow. The base is made of a cast with plaster which allows the model to be still.



Image 03: 1:50 sectional model first floor build-up

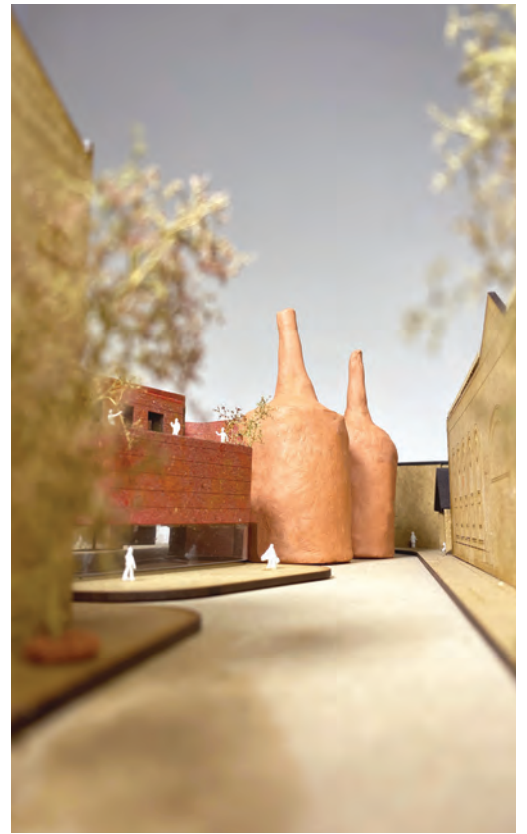


Image 02: 1:200 model, street view of kilns.



Image 04: 1:50 model, full view.

1:1 Detail model

These brick elements show the verticality and the texture of the facade. The focus is to understand the connection between the cladding and how it is attached to the construction.

The cladding system works with a vertical stainless steel element that runs down the facade and every 1 metre a horizontal rail is attached to it with bolts. A C-section runs horizontally and has holes for the bolts to connect to the bricks.

The brick elements are made out of 4 rectangular pieces of thick MDF board glued and sanded. Each MDF brick is spraypainted with granite paint and the steel rail, made of thinner MDF board, is spray-painted with metallic paint.

The brick and steel connection is made with bolts and nuts. I used a tool in plywood to bring the nut underneath the bolt which allowed me to tighten the elements.



Image 05: 1:1 cladding model, side view

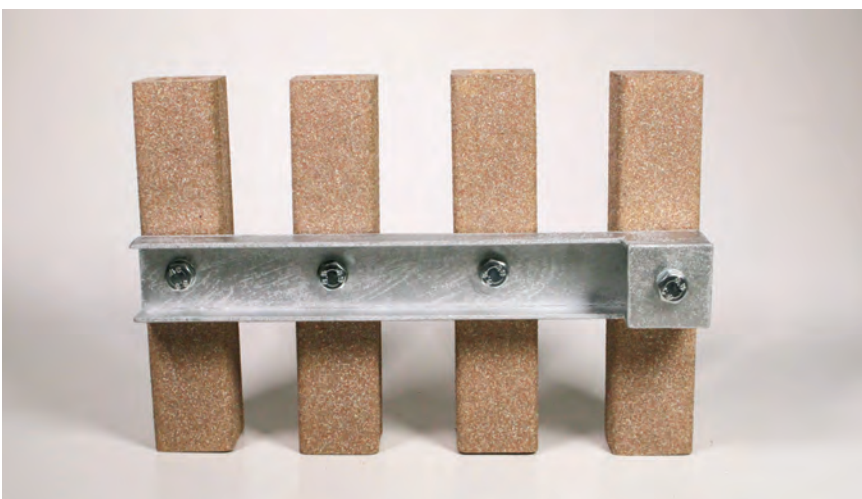


Image 6: 1:1 cladding model, front view

Hannah Knight , Manchester

Ba 3 - Atelier: Continuity in Architecture

Project: Crafting a Journey

Revitalising a town through contextual grounding and social design.

The brief required an investigation into the 'Historic High Street' of Accrington, developing an Arts and Crafts Centre based on programmes advancing in the local area to reflect the changing nature of the High Street. My intervention utilised the principle ideas of Accrington's historic arcade to enhance the pedestrian's journey, encouraging engagement between the extended townscape and my new arcade. A programme focused around facilitating new creative jobs aimed to fill empty shop-fronts, revitalise the town, and improve the diversity and character of place.

Models at different scales were used throughout the design process for the development and presentation of ideas. Initial massing models at 1:500 experimented with the removal or re-use of the existing building on site and the form my building could take around this context. Further models were made which explored both the construction and spatial qualities of design decisions, affording a sense of reality to design decisions not possible when digitally modelling. This enabled me to understand the implications of design decisions and adjust details of the design accordingly. For example, the process of constructing the column model was just as important as the end result: mimicking the construction process allowed me to visualise and understand the steps involved in its construction, identify connections which needed further detailing and make adjustments to the design.



Image 01: The three final models made to communicate the design: (left to right) 1:50 corner detail, 1:20 column detail, and 1:5 handshake detail.

Image 02: 1:50 Sectional Corner Model (MDF, plywood, card).

The model shows where the two proposed buildings curve away from each other, with the central arcade column serving as a connection between building elements. This model allowed me to understand and detail the layers of construction, as well as the spatial implications of the column design: interesting lighting patterns are cast through the central arcade.



Image 03: 1:20 Column Model (plywood, MDF).

Plywood strips were laser cut and then glue-laminated together using a mould to curve each segment. This mimicked the technical assembly of the final column design for the arcade.

Image 04: 1:100 Concept Model (card, wire, tracing paper).

An initial model was constructed early on to explore different forms the arcade roof could take. The final design is more sensitive to the context, structural in its own right without having to attach into neighbouring buildings.

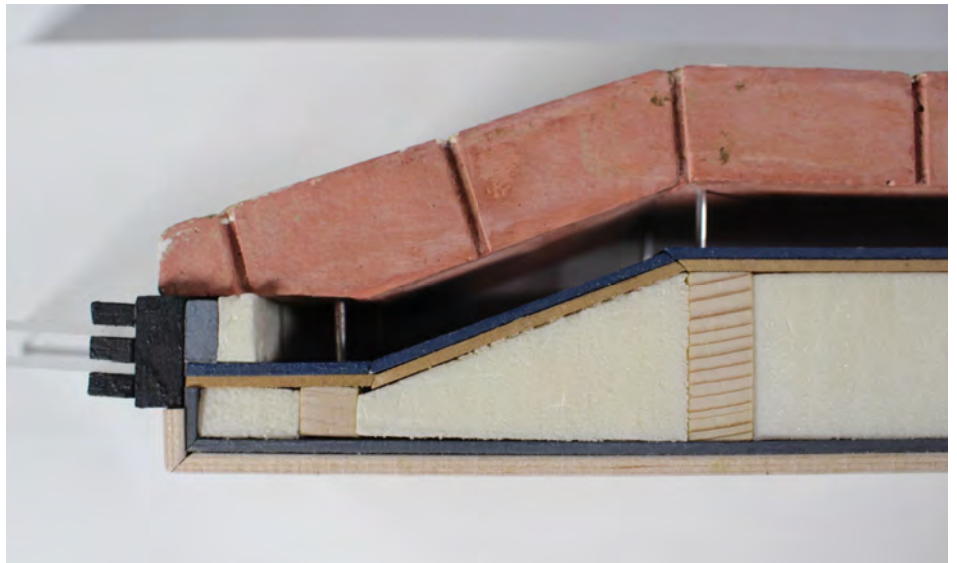


Image 05 & 06: 1:5 Detail Wall-Build-Up.

This model explored the construction of the building's brick facade, replicating the mortar washing of bricks and the chamfer to the window edge.

The mould for the brickwork was made by hand for a more realistic result, and then plaster was used to cast the wall. Modelling by hand allowed me to visualise the brick chamfer and how the wall construction fits around this.

Jack Prowse , B15 Modelmaking Workshop

BA3 - Atelier: Continuity in Architecture

Project: Contextual Placemaking:

Accrington's Art and Craft Community Hub

-1.50 Sectional Model through a key gallery space

-1.5 Tactile Detail of a timber handrail and landing

a) My project in brief:

As per my atelier's brief, I produced a 1.50 sectional model and a 1.5 detail model to express different qualities of my studio project, an Art and Craft Hub in the town center of Accrington. The 1.50 model expresses the interior atmosphere of a gallery space displaying art and artefacts produced in the community hub, and its relationship to the envelope and the overall physical form. The model shows envelope layers made up of a timber rain screen, thermal insulation line and a CLT structure on top of a steel structure of an existing building on site. Attention was particularly paid to a roof light detail inspired by Chipperfield's Hepworth Gallery, designed to protect works of art with a suspended ceiling that casts light ambient light sensitively into the colossal space.

My 1.5 detail is an ergonomic tactile model of a handrail and a landing built into a CLT wall. It focuses on clean and precise craftsmanship that expresses the layers of material with a section cut, and celebrates the use of timber. The handrail shows how people are connected with the design through virtuosic detailing.

b) My use of modelmaking:

I have utilised a range of skills and techniques to produce desired qualities in my models. The sectional model has two elements cast in plaster, a base that represents the ground and a concrete slab that slots into it. Casting creates clean and precise components that gives off the affect of solidity. Plywood was used for different timber components: 6mm thickness for 300mm CLT wall and floor slabs, and 0.8mm thickness for the timber rainscreen. I used a 1.200 massing model to visualise the sectional slice taken from the design, with computer models and hand drawn sketches to create the exact geometry.

The detail model focused on the cutting and treating of a piece of pine wood used as timber flooring and wall panels. The timber was sliced in horizontal and vertical directions to produce two different grains. The handrail element was cut out of one piece of wood to show how this tactile component feels like it has been carved out of one object.



Image 1 1.50 Sectional Model, elevational view. This image shows the seamless nature of the cast plaster base, and the monolithic form of the gallery space from the exterior.



Image 2 1.50 Sectional Model, interior view. The image shows the nature of the interior gallery space, paying particular attention to the continuation of the thermal line along the section cut, and the skylight detail.

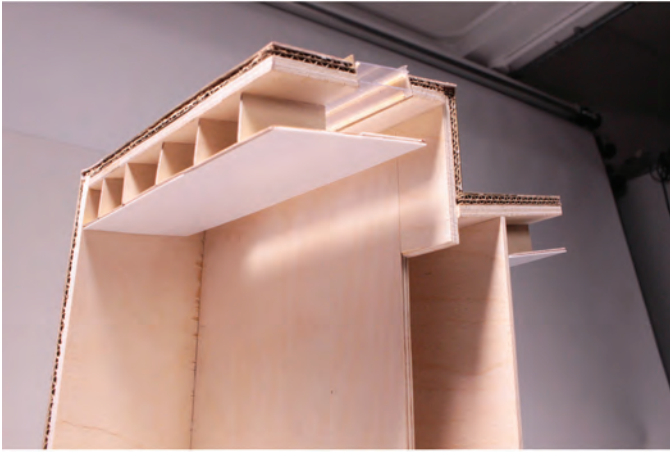


Image 3 1.50 Sectional Model, view of Roof detail. The model successfully shows the affect of the suspended ceiling and sky light detail that creates an ambient light in the gallery space.



Image 4 1.50 Sectional Model, overall view



Image 5 1.5 Tactile Detail, overall view. Attention was paid to demonstrating how the handrail fits seamlessly into the wall using the section cut. I have taken advantage of the aesthetic qualities of the two directions of grain in the pine wood.



Image 6 1.5 Tactile Detail, process picture. Pieces were laid out to be sanded then varnished. Floor pieces were interlocked and the grain mixed up to create an interesting pattern.

Nikhil Nagar , Manchester

BA 3 - Atelier: Continuity in Architecture (CIA)

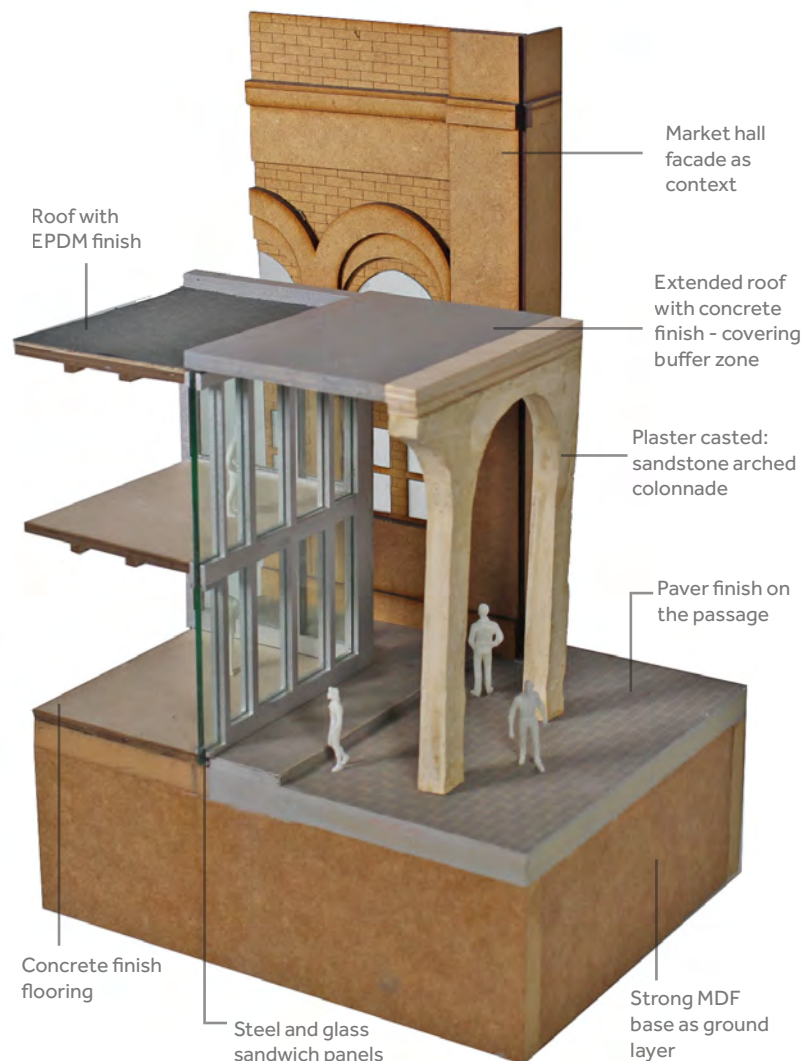
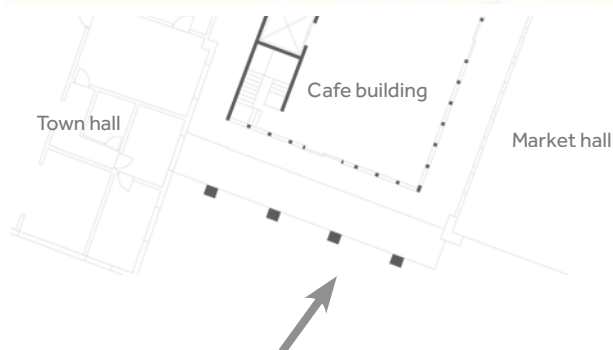
Project: The Accrington Stone Institute

'Beginning of new aesthetic'

The site for investigation is situated in Accrington (north of England). The brief demands to create 'Accrington Crafts + Trade Institute' which will be used as a place to learn, make, build and trade considering the global future, post Covid-19. The project is about 'restoration' as a craft. It was observed many buildings around the site needed refurbishment or restoration due to bad climatic effects. The proposal has been arranged on site into three different parts - making building as a place to actual learn the craft, admin building to manage the functioning of institute, and cafe building as a welcoming gateway to site. The model which is presented below is a corner model on a scale of 1:50. It highlights how the cafe building (a light frame structure) has been placed between two grade listed buildings - the Accrington town hall and the market hall. The placement of building provides two entry ways to the site , protecting the old facades. The steel and glass frame structure is selected to develop a see-through to the site and passage ways.

The model was made in B.15 workshop. The materials selected for making model were acrylic sheet for glass, wood for sandwich steel panels , MDF board for base, grey board for slab, and plaster with pigment for arched gateway. I started by casting the arched design. Initial structure was designed with help of grey board and foam, then it was casted and left to dry for one day. The sandwich panels were laser cut and painted grey to give a steel finish. Later on, they were pasted together with acrylic sheet in between. The slabs were cut and stick properly to maintain equal weight from each side as they had no support from the other side. The market hall facade was laser cut and many layers were added to give an actual 3D look. Then, every part was assembled together to the base.

The corner
Scale - 1:50

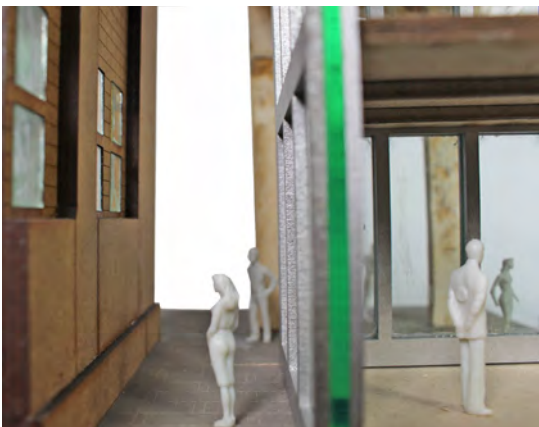




The corner



Entrance to the building



The passage - entrance



Perspective section

Tom Massey, Manchester

Ba Year 3 - Atelier: Continuity in Architecture

Project: A Sonnet for the Pennines

The craft of writing a sonnet distils the expression of awe for something/someone, transcending the imagery of nature to capture emotions and sentimentality. Inspired by the situation of Accrington in the Pennines, the project follows the thematic narrative of refining natural forms into the town centre in an embodiment of architecture. The poem 'Small Towns are passing' by Wesley McNair acted as inspiration for poetically conveying the project, echoing the symbol of Northern Town's prosperity dying with so many turning to 'The distance' instead of the situation for prosperity, semantically conveyed through personification. With collective further research the narrative of an old tale to the area of the 'Cairn' constructed in the Pennines by a group of cotton factory workers cemented the idea of turning to the 'distance' as mentioned in the poem by taking the form of the Pennines and constraining the topography between the ornate Town Hall and Market Hall of Accrington, themselves decorated in imagery of nature. The project thus becoming a sculptural manifestation, realised with the addition of nature with landscaping and planting creating a public green space. The ethos of the Atelier echoed in this canon with designing for Continuity, using the lens of encapsulating surrounding heritage, distilling a story which is introspective and sensitive whilst ushering a sense of modernity and prosperity to the town. This juxtaposed by the monolithic typology of the 'Printing Press, Complimenting the surroundings through materiality and form, expelling modernity and regeneration to the town using a retrofitted 1960s extension. Housing an art gallery to show case local works of art and an artisan's workshop for a range of specialist crafts, surrounding a restored printing press used to print a publication crafted in the space, an encapsulation of nostalgia and prosperity for the town of Accrington.

The role of model making played in discovering and exploring the development of my project was crucial, with physically representing ideas which were metaphorical, itself being ambitious. The final result of the 1:50 scale model focused on the junction between two building typologies, which draw from inspirations both natural being the form of the sweeping Pennines and mechanical of the Printing press.



Image 01 : 1:50 Model - A corner where all the junctions of building typologies meet.



Image 02 : The interior of the model showing the art gallery space, highlighting the imprinted heather ceramic tiles which reference the Pennines and history of Accrington.



Image 03 : details of the exterior of the printing press space, the key aspect of this is the manifestation of the typology and form of the extension being rigid, juxtaposing the form of the slate roof. This was achieved by layering wood and painting it to mimic the texture of a limestone wall, celebrating the imperfections in the texture.

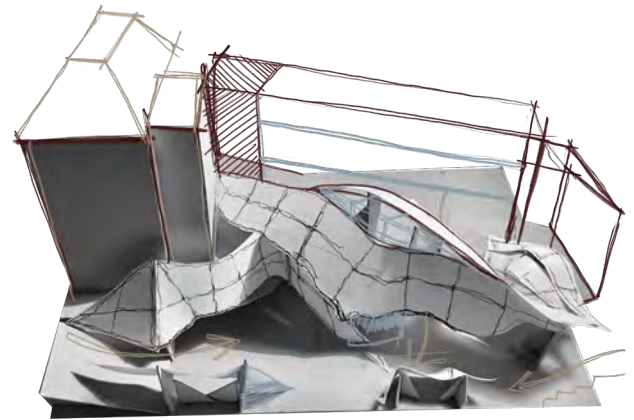


Image 04 : focusing on the difference in texture and colours of the model and the slight details which tell the narrative of the project.

Image 05 : Sketch grey board and paper model which was used initially to explore the realisation of the roof form into the project.

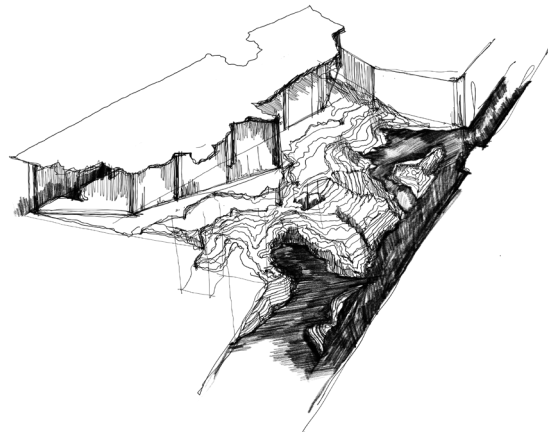
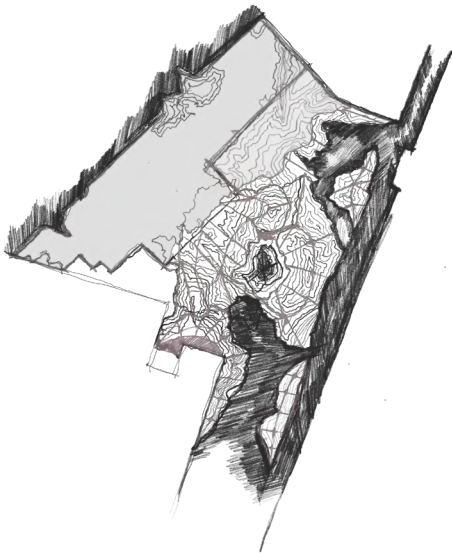


Image 06 : Sketches showing taking the form of the Pennines and restraining it to the site situation, flowing naturally over the site and realising how this can be taken to create the project.

Ana Foianu, Manchester

Ba Year 3 - Atelier: CPU[ai]

Project: Gut Instinct

Concept Model, 1:5 Tactile Detail Model, made in B.15 Modelmaking Workshop

Modelmaking had a key role in the design process. Realised as a direct response to the brief and the atelier's themes of the Growth and Shrinkage and Zero Carbon Futures, the concept model inspired the design decisions which furthered the development of the project. This model explores the idea of organising the programme around a core which collects the rainwater. The materiality and the "kit-of-parts" method of construction were taken forward throughout the project.

The detail model is composed of three main parts: the primary wooden structure, which cross braces the walkway and ensures structural stability, the platform and the secondary structure which is used for safety and aesthetic reasons.

The primary structure was realized by laminating 6 layers of flexible plywood (getting progressively longer, to maintain the desired size while bending) with the use of an MDF formwork (Image 04). This formwork was measured and cut in order to reduce the amount of material used. The laser cut plywood sheets were glued one at a time by clamping them to the formwork to maintain the curvature.

The platform was made by laser cutting the premeasured pieces: the support underneath, the platform itself and the timber plank finish.

All wooden elements were treated in accordance to the desired look, by either applying varnish to achieve a glossy finish or by using a wood tint to differentiate between the materials used.

The 3D printed element creates a visual connection between the interior elements and the facade. This part is composed of 4 separate pieces: two main shell-like pieces form the shape with the right curvature and a hollow interior allowing lights to be added; the other two pieces are the bespoke supports at the bottom which fit into the platform without gluing. (Image 05)

Later a clear acrylic support was designed to give the appearance of a floating path.

The model-making process highlighted the importance of planning and understanding of the geometry prior to building the physical model. It led to a better understanding of a construction process which relies on predesigned bespoke elements.

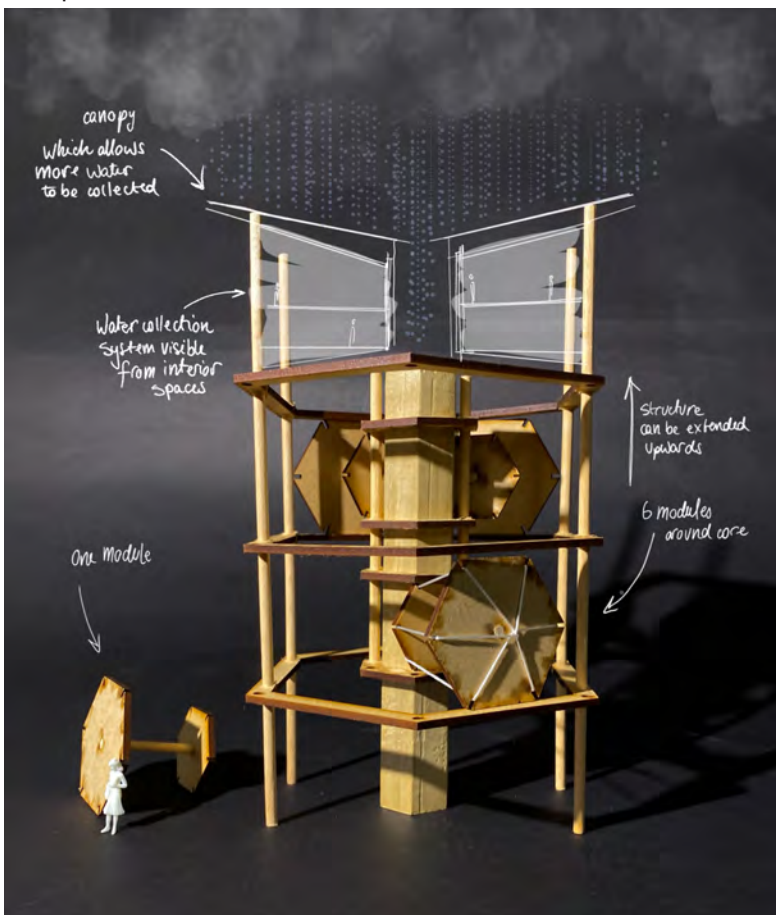


Image 01: Concept Model with Annotations



Image 02: Close-Up Shot

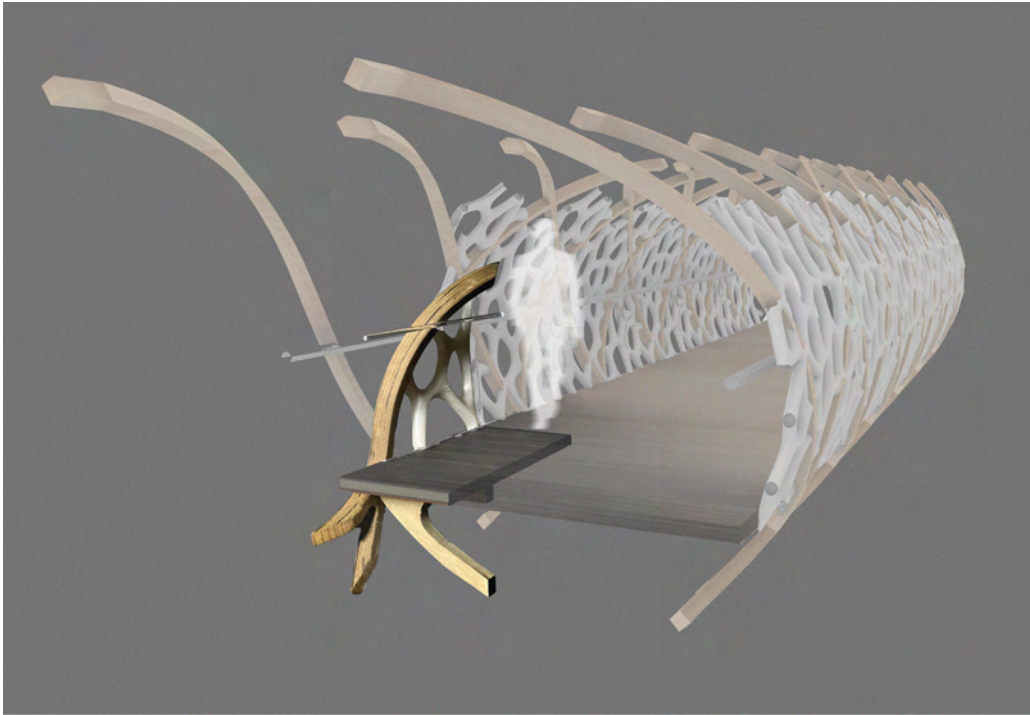


Image 03: 1:5 Detail of Suspended Walkway in Context

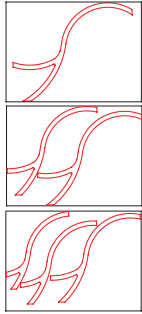


Image 04: Process Photo, laminating plywood Image 05: 3D Printed Elements



Image 06: 1:5 tactile detail model

Anita Luburic , Manchester

BA Year 3 - Atelier: CPU

Project: NEXUS

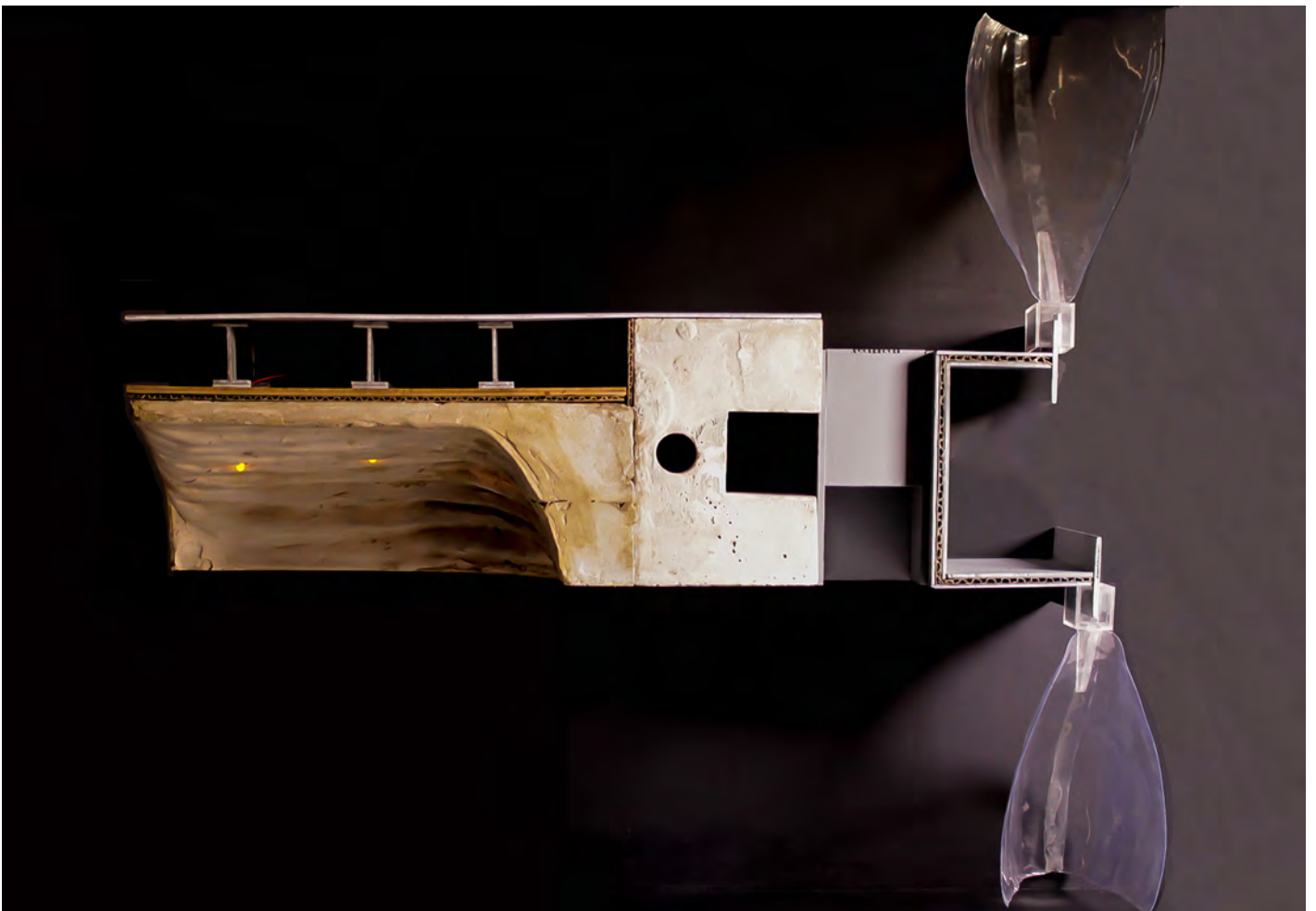
Challenging static design methods through complex adaptive systems

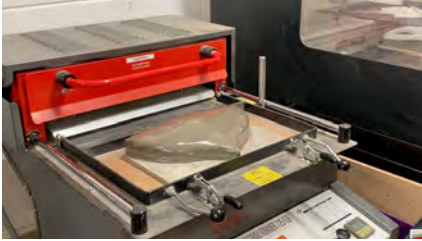
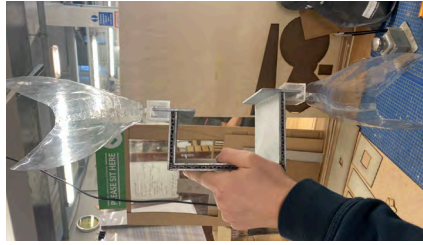
The architectural form provokes anatomical engagement in users as it reflects the various muscle fibers in our human body that respond as exercise tracks to serve the wider community and student campus with an engaging sports facility. The routes spiral, flow, go over and under each other. The undulating ribbons form the ceiling, walls and floors of the building components to reflect the complexity of our human anatomy and encourage users to undertake different types of sport and exercise.

A 1:5 section model was built to show the representation of optimising building material in construction. A form work for the concrete was made and clay was used to mould the negative in order to achieve a curved undulated form which represents the ceiling. The c-section cut of the concrete allows services to be tucked away in the void and a heating trench is fixed onto the outer side for a sleek finish. A gutter is fastened to the fins holding up the trench and the steel framework for the ETFE panels is clamped onto the structure, achieving the muscle mass of the facade.

The steel-like components were made using off cut MDF pieces cut on a bandsaw and sanded down to get a smooth and accurate finish. Two different forms were created for the concrete casting, reinforcement bars were added to hold them together and foam cutouts were placed in the c-section mould for concrete to be cast around it. Straws were stuck to the bottom of the formwork to create holes for the lighting fixtures. Clay was formed into the mould to achieve the negative hollow out curved ceiling. Another mould was made out of clay to vacuum form in order to achieve the cushioned ETFE plastic effect for the facade. A pillar drill was used to drill holes through the concrete to be able to insert wooden dowels for the display of the model on the black backboard. The access floor and insulation was cut out and slotted into the spaces. All pieces of wood were spray painted and backboard was made to ensure stability by drilling holes to fasten the pieces together. The concrete was slotted into the backboard and the lights were soldered and added to a lightbox.

Image 01: Material Optimisation 1:5 Section





Process: Series of images showing use of machinery and processes undertaken to achieve desired form



Image 02: Showing layers, hollowed out form with the access floor on top and ETFE facade to the right.



Image 03: Underneath carved form with lights casting shadows to show depth and structure.

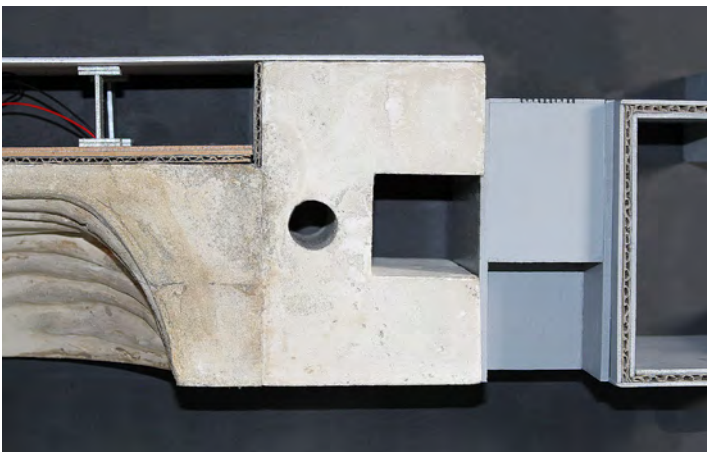


Image 04: C-section showing service voids and connection to heating trench which holds up the ETFE facade



Image 05: Zoom in detail showing materiality, the use of concrete is left exposed to give it the raw texture

Hubert Sokolowski

BA Year 3 - Atelier: CPU

Project: The Elsewhere Agora

Climate Change research and education centre with real-life simulation

To signify the local impacts of Climate Change the project focuses on the issue of floods. During rainstorms, the stormwater from around the city contributes to rising water levels down the stream. Making the visitors aware of the surges elsewhere, the roofed Agora garden occasionally floods, forcing the users to think about the issues that other people face. The interface between the flood floor area and rammed earth walls separating interior spaces was carefully considered. Rammed Earth is a hygroscopic material and should be kept away from water. Thus a concrete upstand was used to shift the material from the occasional flood level. Additionally, the model shows the layers of the ground floor at a 1:5 scale.

The biggest challenge of the modelmaking process was figuring out the right consistency of the material that could resemble rammed earth. Multiple material ratio tests were made to find the right balance between the tactility of the texture, material strength, and appearance. A mixture of cement, plaster, pigment and sand was used at a specific ratio that allowed for grainy texture.

Another challenge in the process was creating precise formworks from scrap pieces of MDF for the components of the floor to fit together. To reduce the overall weight of the cast some scrap foam was used to create a hollow footing. Additionally, to imitate the flood water level, space for an acrylic sheet insert had to be cast into the concrete footing to hold the elements together. Before the cement was poured into the formwork, the "water level" sheet was laser cut and foam of exact thickness and width was carefully stuck in. To imitate a polished concrete appearance, an off-cut acrylic sheet was used to create a smooth texture.

The last challenge of the model was engraving water texture onto the piece of acrylic. Using a technique from a model of Falling water, the surface of still water was first sketched on a paper. By placing the paper under the acrylic sheet, the shape of water was then carefully engraved by hand using Dremel. After putting all the components together the acrylic water sheet gently slides into the pre-cast hole and holds the sheet levelled.



Image 01 [left]:
The acrylic sheet etched by hand
Image 02 [below]:
The view of the model consisting of multiple layers of cast elements. The presented view shows the interior floor layers and the wall upstand



Image 03: The detail from the flood-side

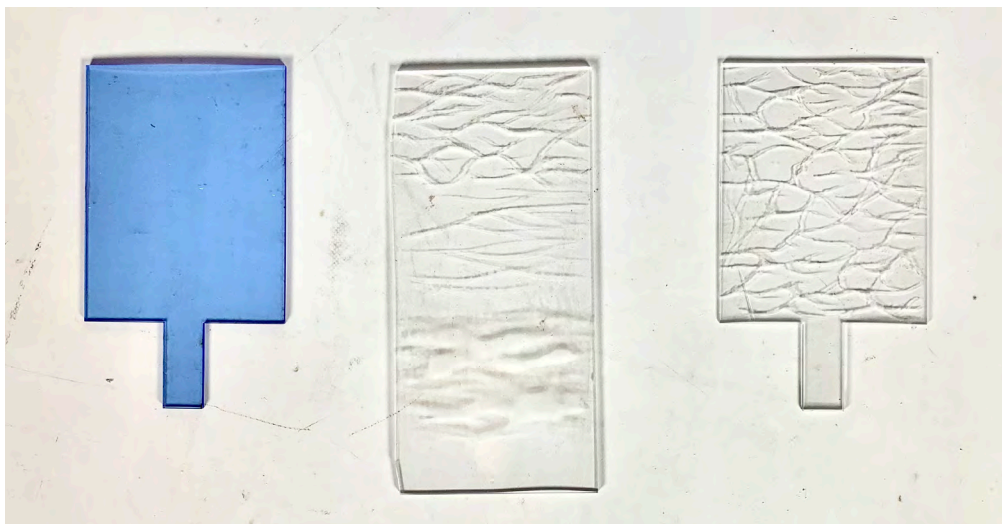
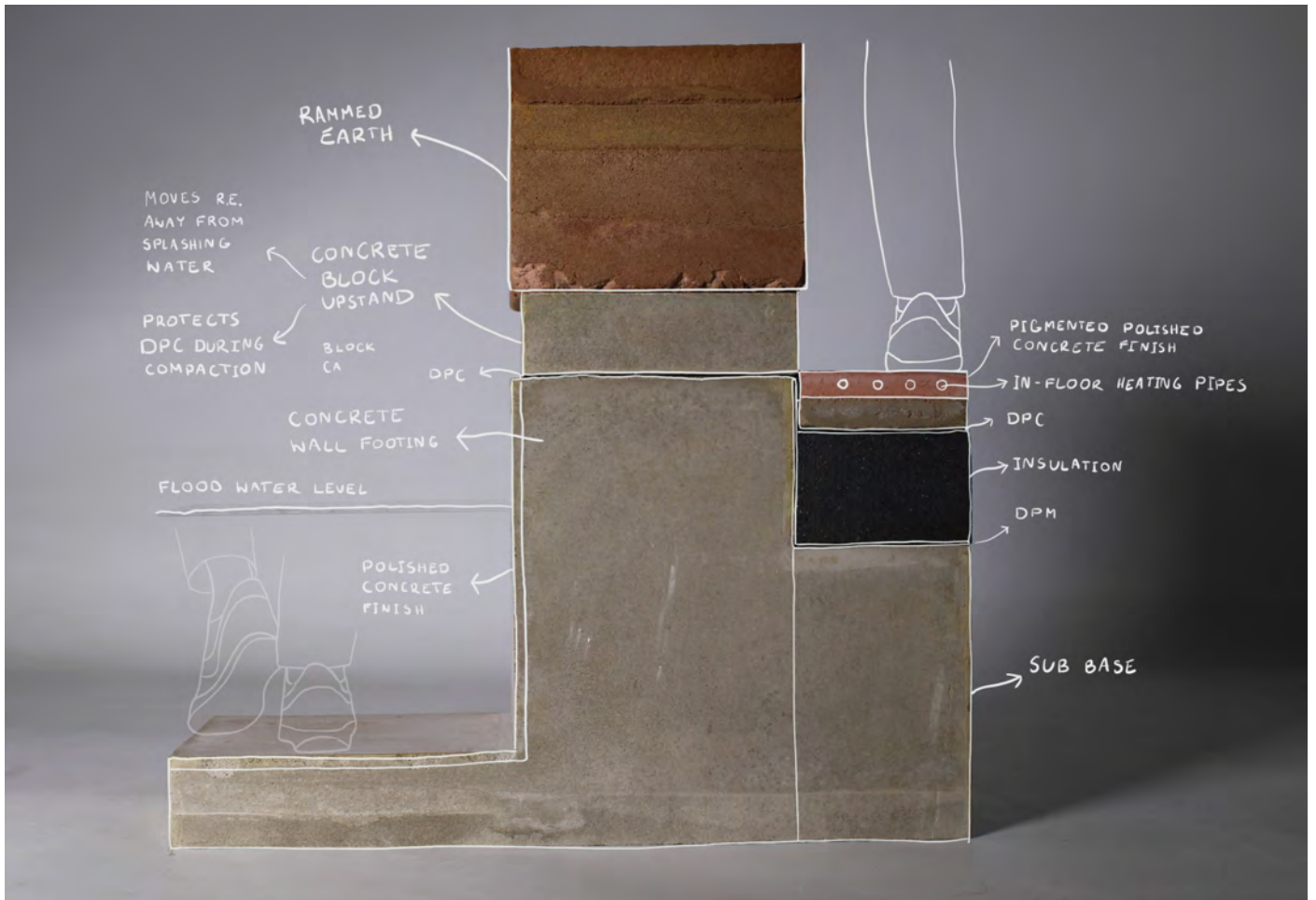


Image 04 [top]:
The side view of the model with annotations as used in studio portfolio

Image 05 [top middle]:
The material tests for the appearance, strength and texture of the rammed earth cast in a reused silicone mould (designed by Rowdah Charbak)

Image 06 [left]:
The tests of different methods of water imitation

James Wilde , Greater Manchester

Ba Year 3 - Atelier: CPU[ai]

Project: The Omiversity

A Research and Collaborative University Building

The CPU[ai] brief given to their year was about designing a structure for MMU Estate, more specifically the Faculty of Psychology, Health and Education. I then developed this into a research and collaborative space focused around the column structure. These are concretene D.N.A. shaped columns that twist and curve inside the structure that then create the rooms in the negative space. The model created below is a 1:5 detail of the floor build-up with a section of these twisting column intersecting and traveling through the floor. The reason behind Modelling this aspect of the structure is to demonstrate and show the hidden service area located under the floor as well as showing the hanging acoustic panelling. These both have a large influence of the overall design as in different ways. The hidden underfloor heating and service area is used to minimise the visual distractions and allows the users to focus on the D.N.A. column, the key aspect of the design. The acoustic panelling is used to emphasise the flowing aspect of the D.N.A. columns using the panels own fluctuating design. The model was constructed in the B.15 Workshop using mostly scrap wood and acrylic spray painted to match the correct material. However, the column shown penetrating through the floor was created in the 3D printer to allow the organic and curved shape to be formed, whilst still being light enough to be supported on the model. This column was printed in three parts, spray painted and then glued onto the model. The overall appearance of the column is extremely similar to concretene and most people assume the column was cast in concrete using a mould, the exact effect the model tried to mimic.



Image 01: Construction Process

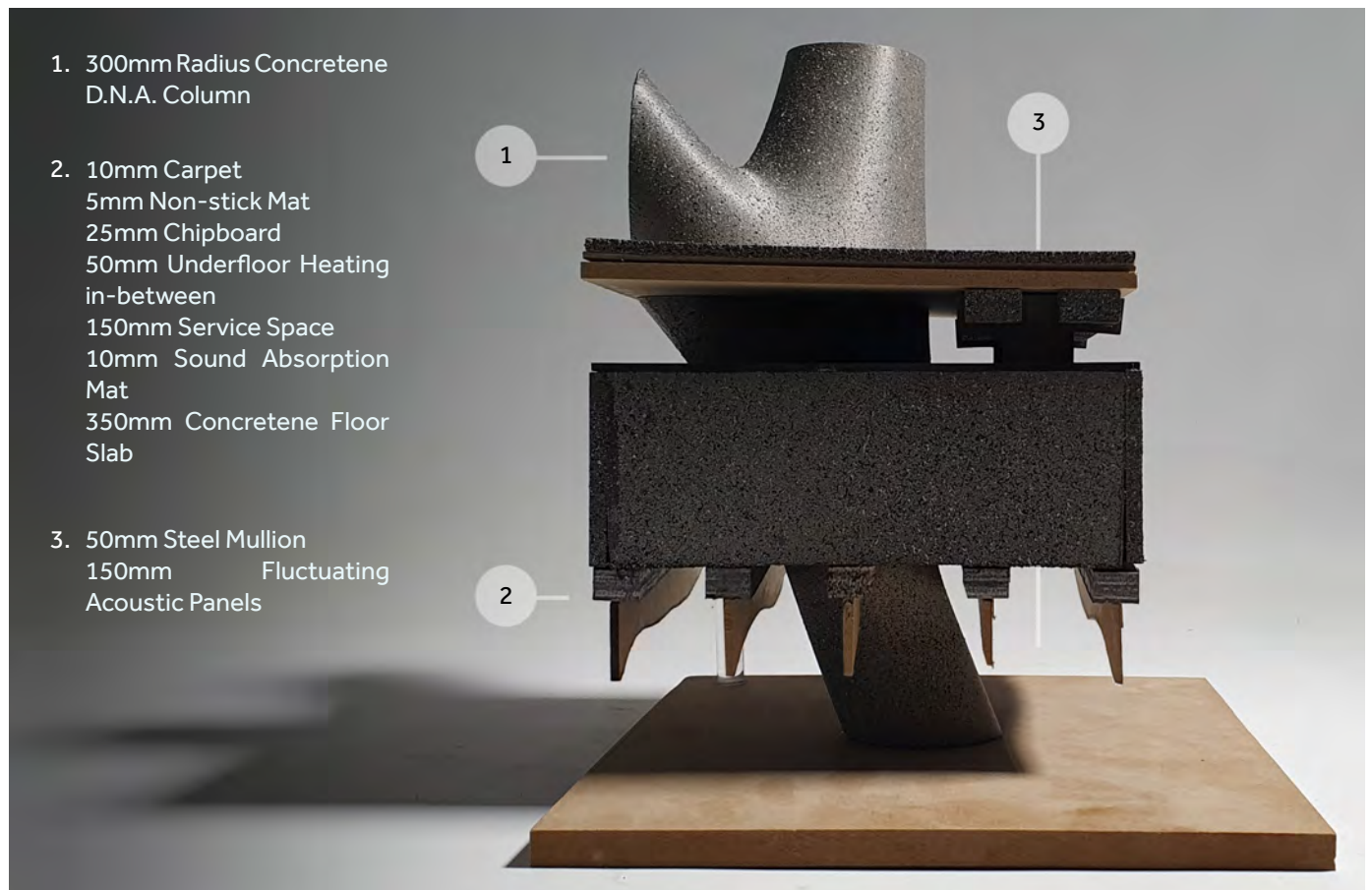


Image 02: 1:5 Detail Build-up

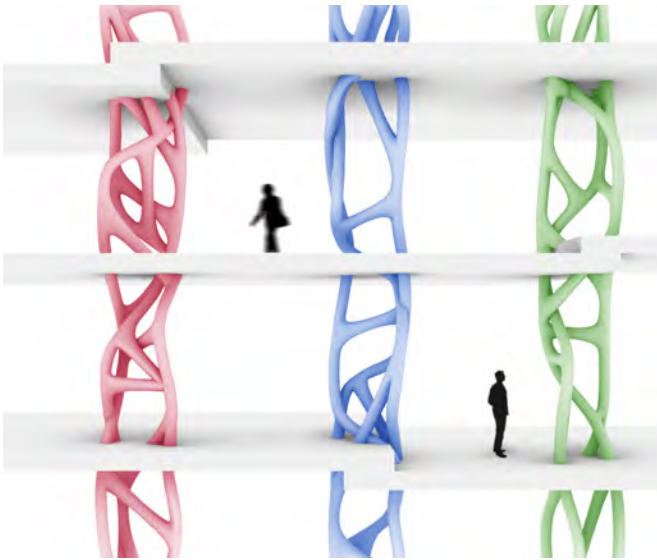


Image 03: Digital Model of Concrete D.N.A. Column

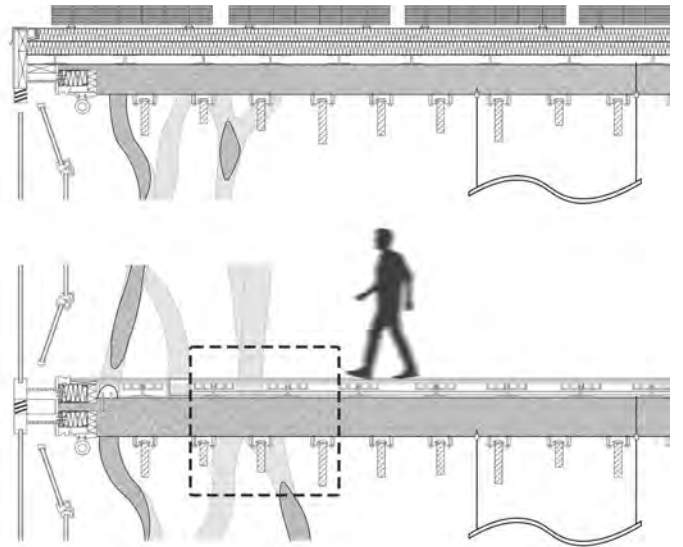


Image 04: Rough Area of 1:5 Detail in 1:20 Section



Image 05: 1:5 Detail Angle 1 Showing Flowing Nature of Column + Layer Build Up



Image 06: 1:5 Detail Angle 1 Showing Flowing Nature of Column + Focus on Acoustic Panelling

Maiwenn Le Berre , Location

Ba 3 - Atelier: CPU(ai)

Project: Home Farm

HomeFarm is a Manchester based project for the community of Manchester. A recollection of possible and potential solutions that address the food emergency we live today - producing local food in the vertical farm, transforming food in the kitchens, selling food in the food outlet- creating a direct link from production to hands of individual, shortening the distribution system in the food industry. Meanwhile, it offers an opportunity to the homeless to get back on their feet by acquiring qualifications in multiples fields such as animation, horticulture, administration, cooking, etc... , and be temporary lodged in a modular accommodation within the building while they obtained said qualifications.

This models were a key element of the project as it allowed a clear visualisation of the "tree columns" feature of the farm floors which were hard to represent in drawing. The first model allowed to get the overall shape of the column sculptural shape, while the second model presented here is a 1:5 detail of the connection between the CLT flooring and timber clad steel columns which are carrying the services through the vertical farm. These were made using a 3D printer and in the workshop using recycled material primarily respectively.

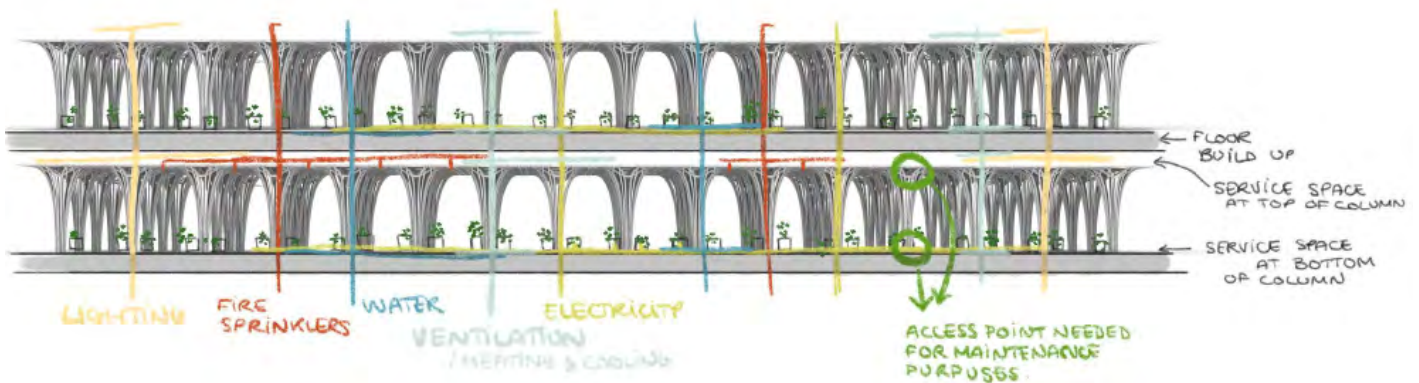


Image 01: Principle of system

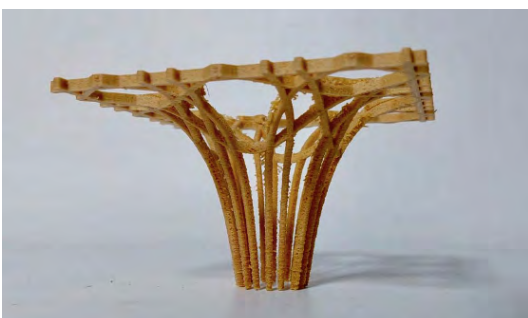


Image 02: Attempt of 3D printing with wood filament



Image 03: 3D printing with white resin

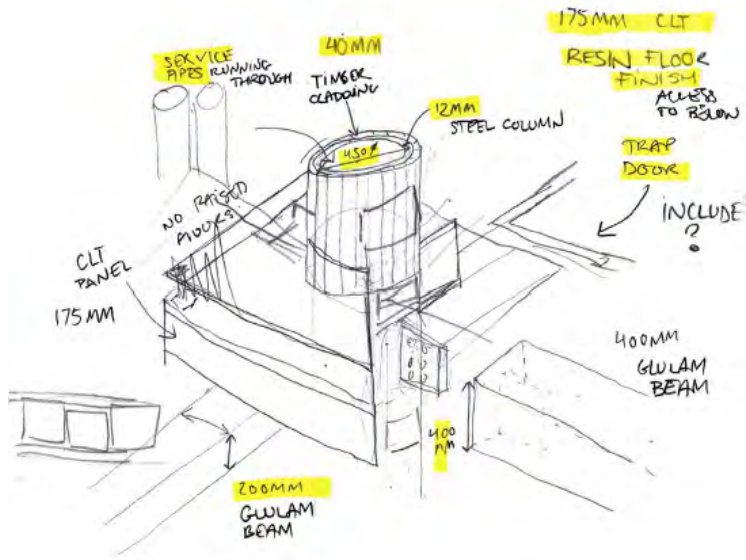


Image 04: Sketch of 1:5 Model

Image 05: finished 1:5 model



Image 06: finished 1:5 model - annotated



Wiktoria Nowak, Manchester

BA Year 3 - Atelier: [CPU]ai

Project: Biodiversity - a living zoo or dead museum?

Biodiversity & Well-being Centre

The theme of the [CPU]ai atelier this year was zero carbon futures and future growth and shrinkage. Following this, the building proposed by me is a manifesto that raises awareness upon the ongoing issue of biodiversity loss. It manifests that spending time in nature, can have a positive impact on our well-being. This has been emphasised by contrasting two visions of the future: utopian and dystopian. Therefore, lighting effects, along with the playful use of colours and shadows, were tested through my models to underline the project's character.

The 1:5 tactile model focuses on the relation between the timber structural frame and expanded facade (figures 1-5). The glulamined primary frame is exposed and aims to imitate outdoor areas, like forests, where people go to seek comfort. However, most elements were assembled from the 2mm MDF board, and coloured for an easier differentiation of layers, and allowing for a more sustainable model-making process. The building breaks the division between the "inside" and "outside" through the curtain wall facade, in this case, made out of 2mm clear acrylic. This allows to further test the shadow effects created by the expanded facade, by playing with the size of "openings" and creating a distinction between more shaded private areas and open public rooms. To create the model, I used laser cutter for the highest precision, as much as a hand saw for size adjustment.

To explore the light effects further, a 1:10 model of the outdoor column was created. The column aims to lit up in different colours depending on the British biodiversity status and the model's aim was to test these light effects (figure 6). It was conducted using a fully different technique: 3D printing, due to its detailing and possibility to create any desired shapes, no matter the size or orientation. The printed model is a very accurate representation of the column which allows for a comprehensive light analysis using coloured cellophane sheets placed in front of the camera. The final images allow for accurate portrayal of column in reality.

Image 01: Process pictures of 1:5 tactile detail (left) and 1:10 column (right), both made in the B15 workshop.

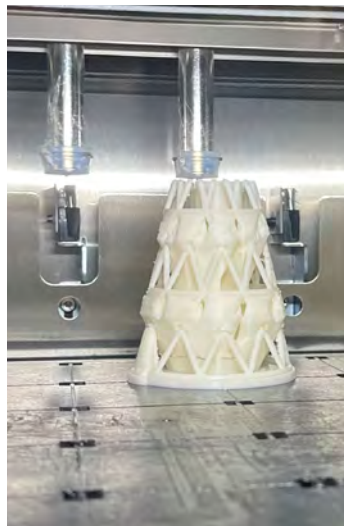


Image 02: Facade shadow effects



Image 03: Elemental build-up



Image 04: Expanded facade aesthetics + shadows

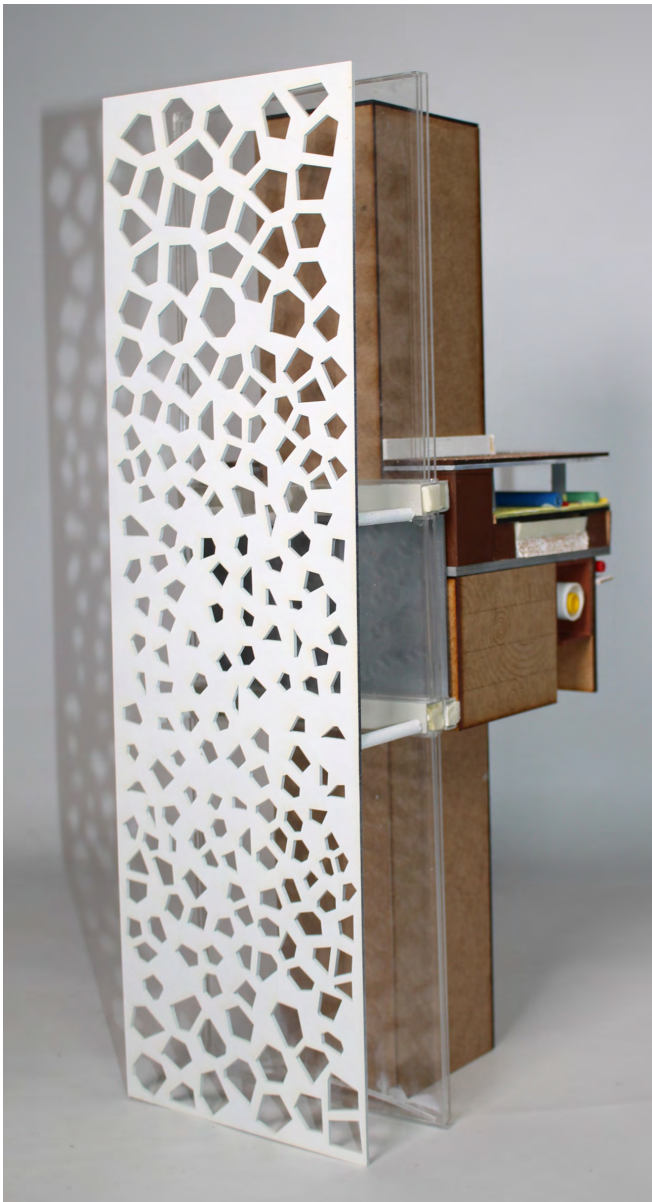


Image 05: Materiality & structure

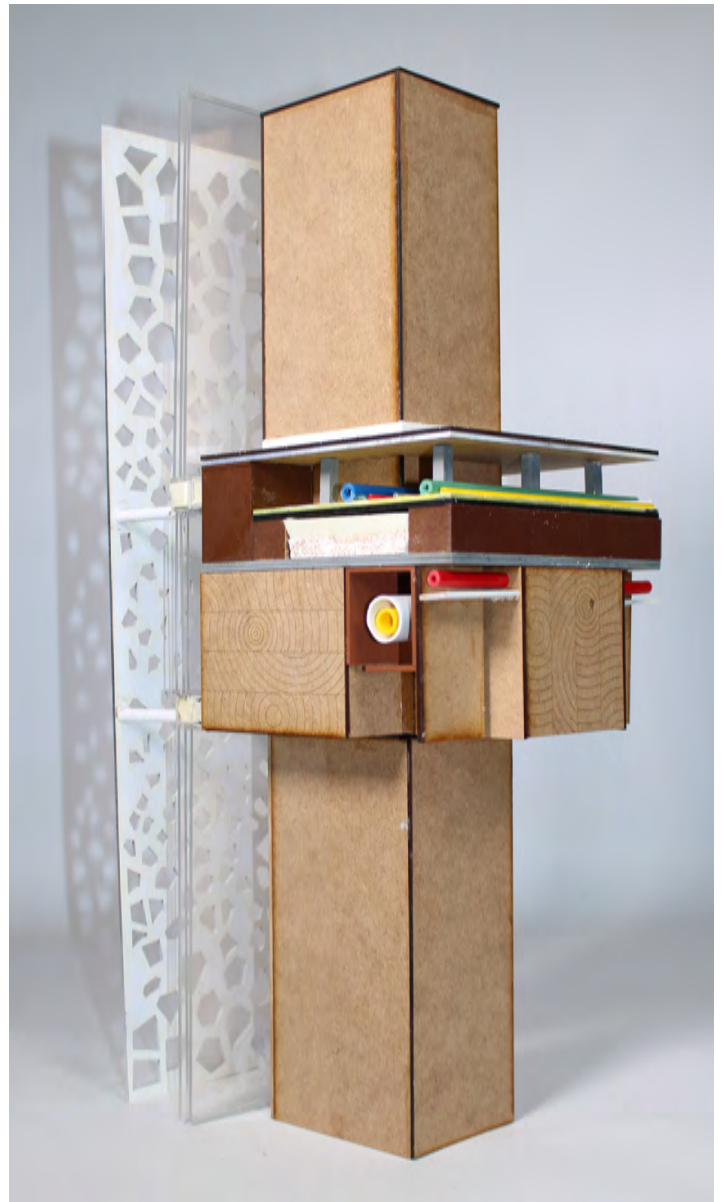


Image 06: Columns as an indicator of the British climate emergency status (3D printed column model 1:10)



Great! - There has been a constant improvement in the world of biodiversity and climate change. Thank you for saving our planet!

Good - An improvement in the world of flora or fauna has occurred, i.e. a new species have been saved - find out yourself!

Neutral - There has been no important events in a while, it is a chance for you to get involved and change the world!

Warning - the time to act is NOW to avoid a catastrophe i.e. species becoming endangered. Find out what can you do to help.

Emergency - something bad is happening right now and it is the last chance to stop it... Get engaged to save the future of our planet!

It is too late! We lost. Nothing can be done to undo what happened. But you can stop it from happening again.

Keng Chi Mak (Kingsley) , Manchester

Ba3 - Atelier: FLUX

Project: The Narrator

Mayfield Book Centre & Historical Archive, Manchester

The Narrator is a community building that connects the residents of Mayfield and Ardwick, forming a part of the Mayfield Regeneration. The scheme manifests the idea of observing the change and feeling the timeline of a city. It reminds people of the past's shaping influence on the present and the future, celebrating the change around us and the area's culture.

During the iteration process, I explored how the building could impact its contrasting urban landscape, thus acting as a landmark of the area. This 1:200 conceptual model aims to demonstrate the possibilities of changes in the structure while showing a real-life vision of how the building would work. The whole model involves three building stages entirely in the B15 workshop - the site model, the frame, and the highlight elements.

The site model is made of MDF boards using laser cutting. The etching lines and surfaces help differentiate pavements from roads. Next, I laser cut the frame with greyboard. The imperfect burnt edges of the frame add detail and texture to the "timber" frame. The greyboard also makes it easy for any changes to the form factor of the building in the later modelmaking stages. After multiple iterations on the overall form factor, the 3D-printed red staircase and "crumbled-paper" facade add dynamics but harmonise with the neighbourhood. Both elements are first digitally-modelled in SketchUp and Rhino. The 3D-printed footbridge and model trees become a part of the landscape strategy in the last stage of the building process.

The conceptual model shows how the Narrator physically and mentally connects Mayfield and Ardwick. With the gradual change in building height, the complex creates a leading vision toward the tallest point of the observation tower. By then, users can always view the buildings and changes in Mayfield. The red staircase and the footbridge wrap around the building while going into the target programmes in the centre, further strengthening the relationship between the indoor and outdoor space and bringing people in Mayfield to Ardwick. The "crumbled-paper" facade also embraces itself as a book centre and historical archive, contrasting with the light modular "timber" frame.



Image 01: Isometric overview



Image 02: West elevation view - (Left to right) Mayfield; The Narrator; Ardwick

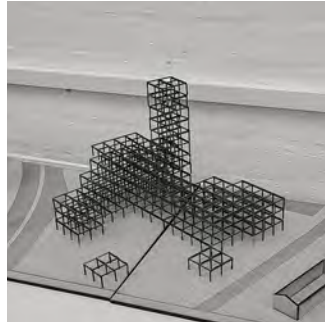
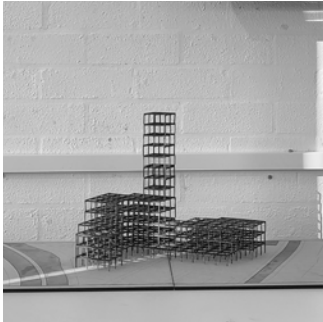


Image 03: Testing process - exploring the form factor and location of the red staircase



Image 04: View from Ardwick neighbourhood - investigating the relationship between each vertical elements



Image 05: The red staircase & timber frame - demonstrating the visual impact of the red staircase and flexibility in timber frames

Lucy Hetherington, United Kingdom

Ba Year 3 - Atelier: Flux

Project: Stone Wall Studios

The Vault Sectional Model 1:50

Stone Wall Studios is a printmaking space which embraces the the story told in the textures around Mayfield and Ardwick and aims to reintegrate the craft of printmaking into the community, an industry which consumed the area during 1800s. Existing materials and structures from the site are used to construct an environment that is provocative of Mayfield s atmosphere and history. This is done using surface, space, solid form and in the balance of existing and new.

'The Vault' public studios, which is depicted in the sectional model, sits at the forefront of the site and plays with the idea of solid and void, taking the shape of the negative space of the existing railway arches that border the site and lead to Piccadilly station. Voids are created in this barrel vault and smaller structural arches are used within these spaces to celebrate the arch form, a symbol of the site, in a multitude of ways.

The model was created using an MDF structure, which thin MDF sheets were laser cut and bent around to create the barrel vault form. This process reflected h w it may be constructed in full scale, with the concrete structure being built fi st followed by precast concrete slabs for the vault and then the reclaimed bricks. A mixture of hand and spray paint was used carefully to evoke the texture and look of concrete and brick over the mdf. For the exterior, to depict the tall grass that would be planted, the hairs of a brush are used in bunches, glued into holes in the base and hand painted. This helped create a more wild look and a stronger distinction between interior and exterior.



Image 01: Balcony and Planting



Image 02: Interior view from back



Image 03: Section with context



Image 04: Process: MDF arch structure



Image 05: Interior view from front



Image 06: front view

Kwok Sum Li, Sam , Manchester

Ba 3 - Atelier: FLUX

Project: Urban [UN]Seen

Speech Clinic, Sound Archive and Story-telling Public Counselling Space

Urban (UN)Seen is a 2-part project 'looking' into the underlying issues of social segregation. The project began by questioning the meaning behind silence. Is it a static moment when all sounds are erased, or is it merely a break before the continuation of more music? If it is silent, how did we hear it? And how do we distinguish noise from sound? Urban (UN) Seen concentrates on retracing lost sounds and voices, proposing a retrofit for the norm where we can celebrate sound and noise as just what they are – decibels. The true meaning of sound is intangible.

By taking users through a journey of sounds, the scheme of the building collects, displays, and transforms sounds to redefine its traditional preconception. Eventually, the building itself would also become a convergence of stories gathered by the people, a continuation of the narratives from the never-ending tales of the River Medlock and reiterating the idea of letting the human voice thrive. As such, the project intends to break off the social stigma of putting people with speech difficulties at brinks -- everyone should be listeners, performers, and composers, of their own stories.

The user experience is a main theme for my project, from this I designed a specific journey that takes users 'for a walk' and used the ramp to modulate, direct and enhance circulation experience. My model is a sectional model cutting through the vertical profile. I wished to use the physical model to envision the atmospheric qualities of my design, thus to test if the bridge system can actually improve the user's experience.

Also, I've designed the bridge using special joint details as an environmental response to cut down the overall embodied carbon content of the materials. Which is why making a sectional model can show all these details in the design process. Throughout the making process of this model, I used materials like OSB and MDF boards to mimic the real life wood materials. A semi-transparent plastic sheet is attached to the MDF board with screws to mimic a polycarbonate sheet. Details of the gutter, pedestal and wooden deck are also modelled. Hand sawn the joint details and used laser cutting on the more refined details I was able to create an accurate depiction of the actual joinery in a smaller scale at 1:20.



Image 01: Roof Canopy Details



Image 02: Front Profile of the Bridge Section



Image 03: Wooden Columns



Image 04: Wooden Joinery of the Joist and Beams

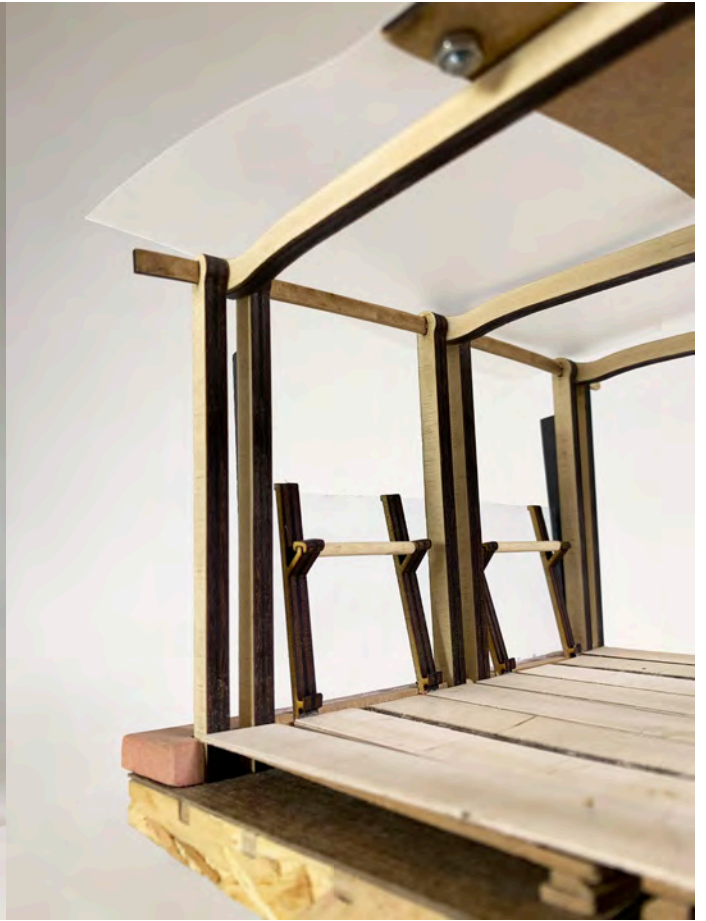


Image 05: Interior View

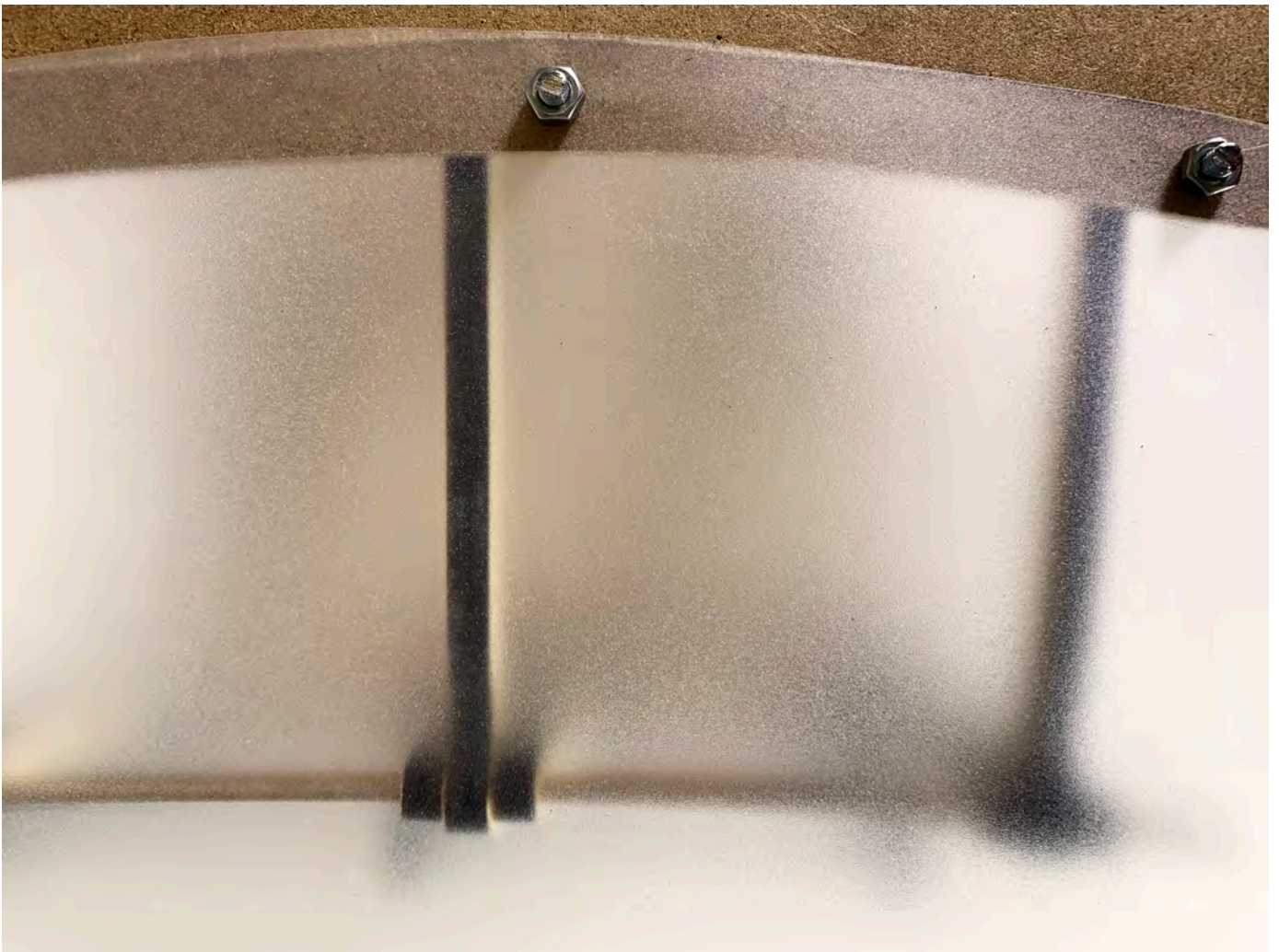


Image 06: Birdseye View of the Polycarbonate Canopy

Catalina Marina Persunaru, Manchester, UK

Ba Year 3 - Atelier: Some Kind of Nature

Project: Afterlife

Architecture beyond growth and decay

Recent events directly related to climate change and the biodiversity crisis have proved that the architectural design strategies we currently employ are not feasible anymore.

In order to address this issue, the project analyses and challenges the boundary between architecture and nature, exploring the capacity of the latter to create highly resilient and adaptable structures. This investigation translates into a cladding system made of two layers where the outer one becomes a living organism as time passes by (image 1, 2, 3). Nature is left to spread over it and contributes to both its decay (through microbial colonisation) and growth (by allowing plants to grow around the cladding and strengthen it). Consequently, the outer shell of the building is able to adapt itself to the changing climate and maintain a certain comfort level inside the building. At the same time, it becomes an art installation as well as a live case study which complement the programme of the building: art gallery and library.

The tactile model shows the junction between the window frame, external wall, cladding, indoor floor and terrace (image 5) but, most importantly, it suggests how plants will overgrow the cladding in the few years following the realisation of the proposal (image 4). The purpose of the model is to show the connection between nature and the built environment and to explore the tactility of the cladding while proving that an outer layer that simultaneously decays and grows can be considered in a real project.

The 1:5 model is made of plywood of different thicknesses, balsa wood, cork, acrylic plastic, MDF and greyboard (image 5, 6), most of which are recycled off-cuts found in the workshop. Most of the components are cut using the machinery available in the workshop in order to achieve the precision required for a sectional model. The secondary layer of cladding was left outside in a damp environment for 3 weeks in order to boost its decay and dry lichens were glued to it in order to better suggest the growth process. (image 1, 3)

Image 1: Lichens growing on cladding - pre-assembly



Image 2: Lichens growing on cladding - detail



Image 3: Steel structure connecting the two layers of cladding - detail



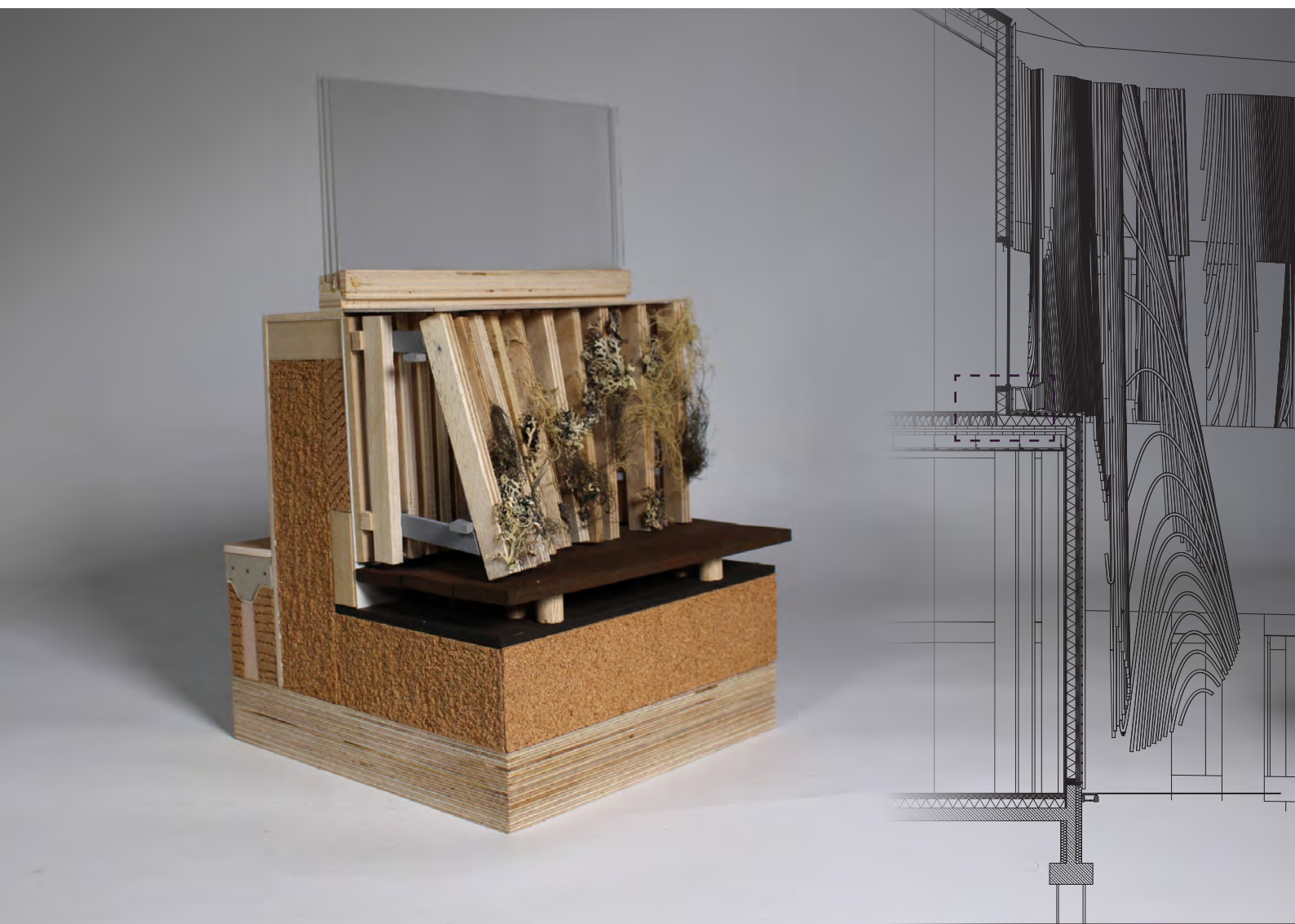
Image 4: Final 1:5 model - front view



Image 5: Final 1:5 model - side view



Image 6: Final 1:5 model - perspective



Ruben Greyson, Manchester

BA Year 3 - Atelier: Some Kind of Nature

Project: Parallel Habitats

Co-Living for Post-Graduates and Non-Humans

My atelier asks the question of how we can “reimagine inclusive spaces for humans and non-humans to thrive”. In short, my response to this question is a building that floats above the ground and lets light through onto vegetation below; a human space above, and a non-human space below. The building is a co-living scheme for post-graduate students; using shared spaces to reduce the overall footprint of the building.

This project ran for the whole year; starting at large scales focusing on the concept and massing of the building, and then slowly zooming in and resolving our building at increasing detail. The models I have made reflect this increasing resolution; they slowly zoom in on the scheme and between them the intention is that they clarify the entire building. The 1:200 model clarifies how the entire scheme fits together and its overall spatial quality. The 1:20 model provides much more clarity: it explains the different materials; how the different spaces relate to each other. The 1:5 detail model provides further material clarity but also explanation of how the components of the building connect to each other.

I did a series of test casts of the base with different materials and techniques, and I chose this option because it looks the most like a ‘slice of the ground’. The majority of my building is made of timber so I’ve been able to closely model these components. The steel walkways and joints were made using multiple materials to achieve different effects at different scales: 3d printed steel joints at 1:20; laser cut MDF stairs at 1:20; and hand cut acrylic at 1:5.

As well as using the models to communicate my final design, I also embraced the process of making them to resolve my design and test different ideas. I started making the models when there were still many questions to be answered about the building, which were answered through the process of making and hands-on problem solving. I made the three models simultaneously, resolving a detail at one scale and then applying what it had taught me to the other models.



1:200 Massing Model

1:20 Corner Section

1:5 Junction Detail

Image 01:

My three models side by side, clarifying the overall scheme.



Image 02:
1:200 Model. View of the 'forest'



Image 03:
1:200 Model. View from the 'canopy' of the building.



Image 04:
1:20 Model. Perspective of the 'floating' staircase.



Image 05:
1:20 Model. Perspective from outside a housing unit.



Image 06:
1:20 Model. Housing unit above the kitchen unit. I have shown some of the material build up relevant to the scale, but mainly focussed on the materiality of the spaces and how they interact.

Sofia Viudez, Manchester

Ba3 - Atelier: SKN

Project: Pulling the Thread

A textile-based scheme

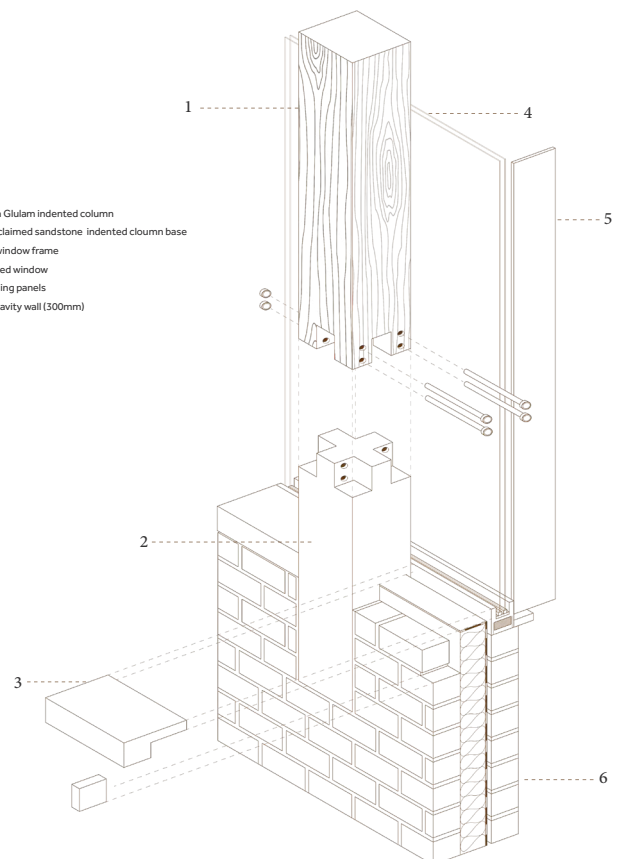
The catalyst for 'Pulling the Thread' is Stockport's forgotten history of its textile industry, specifically in cotton and silk, which was rooted in the slave trade through the River Mersey. A textile-based scheme dedicated to researching, creating, teaching, learning, and showcasing new bio-textiles and deadstock textiles. The design splits up the three sub-programmes into three buildings encircling each other creating internal courtyards. A design integrated within the site, creating pockets of public outdoor space as well as dedicating a large portion of the site to rewilding the landscape - allowing nature to recuperate what it has lost. Throughout the design re-used sandstone was used as to link the design back to Stockport's mill history, while contrasting the material with douglas fir cladding and glulam frame as to decrease the carbon footprint of the design as well as integrate it more with the natural setting of the River Mersey.

Quick sketch models were used to develop the form of the design and how it would sit in the site. Later on more detailed models were made to physically communicate the difference in materiality in the design, the exposed roof structure and unusual roof form as well as a structural and tactile detail found within the design.

The detailed models were made in the b15 workshop using a variety of mediums. The first detail model is a 1:5 tactile detail showing the meeting of a glulam column and sandstone wall. This detail is found only twice within the design: in the building dedicated to the education of textiles, within the double height green spaces where the materiality changes from timber walls and flooring to sandstone floors and walls, as well as double height windows facing the internal courtyard. The second model is a 1:50 corner section of one of the buildings: the double height gallery space. This model is used to communicate the change in ceiling height from one room to the other, the roof structure and form as well as the change in materiality from re-used sandstone for the walls to a timber roof. Both the models used Jesmonite when casting the stone elements, mimicking the texture and colour of sandstone, while the timber elements used a mixture of light coloured wood internally and dark stained wood externally. I wanted to show a cohesive narrative between the two models, thus the reason for using the same materials and techniques to make them.



Image 01: 1:5 tactile structural detail: cast jesmonite, chiselled timber, recycled plywood, acrylic sheet



1. 300x300mm Glulam indented column
2. 300x300 Reclaimed sandstone indented column base
3. Douglas fir window frame
4. Double-glazed window
5. Timber shading panels
6. Sandstone cavity wall (300mm)

Image 02: 1:5 tactile structural detail drawing

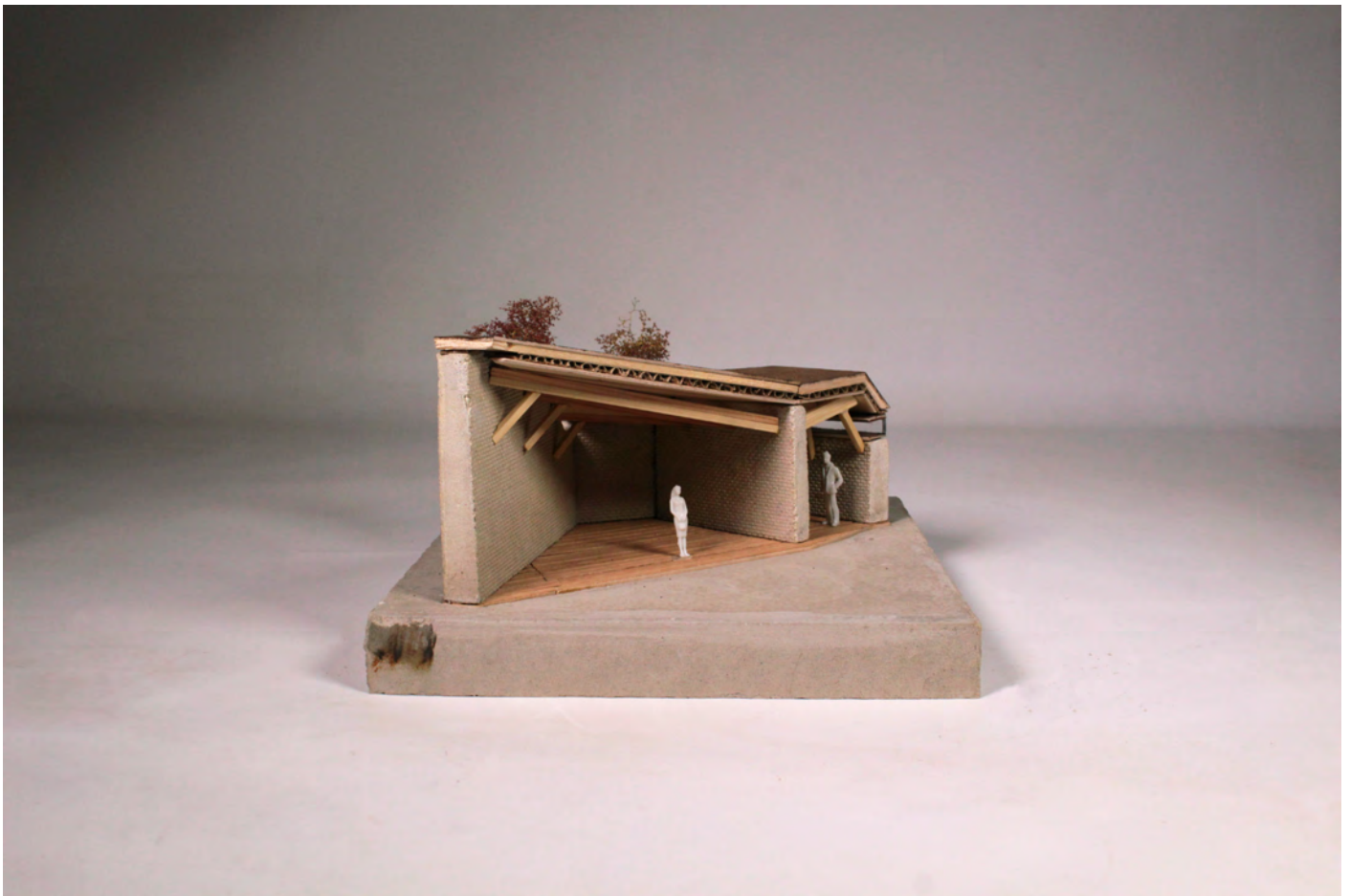


Image 03: 1:50 Corner sectional model: concrete cast base, jesmonite cast walls, recycled plywood and balsa for the roof



Image 04: 1:50 Section model, showing the exposed roof structure



Image 05: 1:50 Section model, eye view showing the change in ceiling height



Image 06: 1:50 Section model, aerial view showing the roof form

**MArch
+ MLA**

Megan Pledger

March Year 6 - Atelier: &rchitecture

Project: Whitney Seagull's Mini-Holland Suburbia

Single Mother Architects: Reclaiming sense of self from childhood memories

This thesis project begins with the understanding that single mothers negotiate the precarious complexities of inadequate housing which generates a unique knowledge of architecture and the power structures that creates it. As revealed in a series of four ethnographic interviews with a group of single mothers from South-West Essex, their schedules mean they are absent from a large proportion of the city. Under the pseudonym Whitney Seagull, who embodies the Single Mother Architect, she appropriates Walter Segal's responsive self-build ideology to challenge suburbia by using her experiential design knowledge to reimagine Hester's 20th Century seaside 'Mini-Holland' for Canvey Island, Essex. Her experiential design knowledge is collected into a recipe book re-imagining suburban gardens, flood prevention infrastructure and the seaside.

The project is presented through a recipe book of everyday design tools used as an anti-professionalism stance to break down gendered power structures behind traditional architectural design. Thus, the final model recreates a kitchen table, afternoon tea scene to place the masterplan design process in the space of single mothers.

Model making was used throughout my thesis to synthesise an 'everyday material' design methodology which guided Studio 1, 2 & 3. The methodology began at home, with re-used corrugated card and other household items (Image 01 & 02), inspired by research techniques used with the single mother participants who contributed to this project. In turn, the making process was my main design tool, used to simulate a single mother architect building with domestically available materials with comparisons to cooking, communicated with digital projections, video's and stop animation. As the project progressed into Studio 3, model-making techniques became more refined, using multiple scales and using complex paper nets (Images 03-06), whilst retaining playful aesthetics and methods in the B15 workshop. The kitchen table model uses a finer scale on elevated paper plates to challenge traditional top-down masterplanning design techniques by raising them to eye-level, inhabiting the masterplan and representing single mothers' unique design perspective.



Image 01: Studio 1 research model video still documenting the precarious single mother experience



Image 02: 2/3 Studio 2 design concept model animation still.

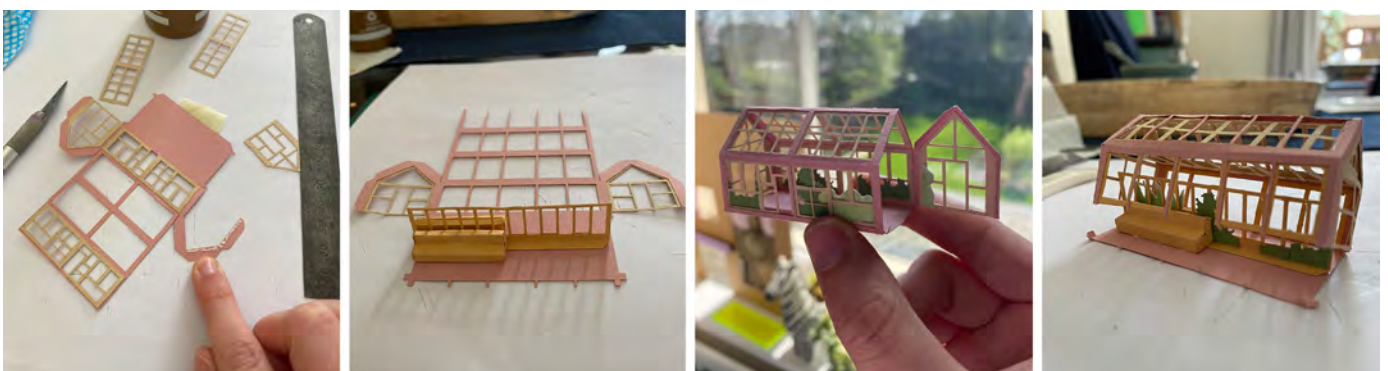


Image 03: Paper nets making process



Image 04: Canvey Island Kitchen Table Masterplan (1500x750mm plaster & MDF base with paper plates on threaded rods)



Image 05: Seaside site, a new pier (paper nets, plaster cast & origami)



Image 06: Existing context (plaster cast of 3D printed houses) with proposed winter gardens (paper nets)

Nur Farah Afiqah, Manchester

March Year 2 - Atelier: &rchitecture

Project: The Allegory of Transitioning regenerating the invisible narratives

The allegory of transitioning is an intervention project situated at Whitworth Park, Manchester. It is about regenerating foreign student's invisible narrative of transitioning from familiar place to unfamiliarity, influenced by perception bias and their feeling of belonging. The design ethos explore narrative technique in constructing and developing the spatial setting by decoding perceptive experiences (around the notion of 'transition' associated with scenarios within their daily matters) into spatialised interventions.

Using diorama approach to reveal possible narratives at the beginning of thesis development has strongly influence the direction of this thesis going forward. the first set of diorama portray how space is perceived during transition state, revealing the invisible narratives experienced by the participatory group. Going forward, the spatial construction and development are evolved from the first diorama set, which was used as the basis of exploration. Using paper material in making the diorama allows me to easily recreate the narrative of environment in 3D to depict the experience. All three diorama sets are made in fixed scale that fits on uniform wooden blocks.

The site model is also made out with interchangeable wooden blocks to allow each diorama sets to be substituted in, revealing an extended possibilities of naration that corresponds to the surrounding context which also serves as a method for site planning iterations.

In the final studio, four key interventions of this project are physically modelled in various typology which includes 1:50 and 1:75 scale sectional, strip, partial and diorama model to suit the best way in narrating the curated experience for the allegory of transitioning. Material tests were also done earlier on, to explore the tactile experience and developing the materiality palette for the project.

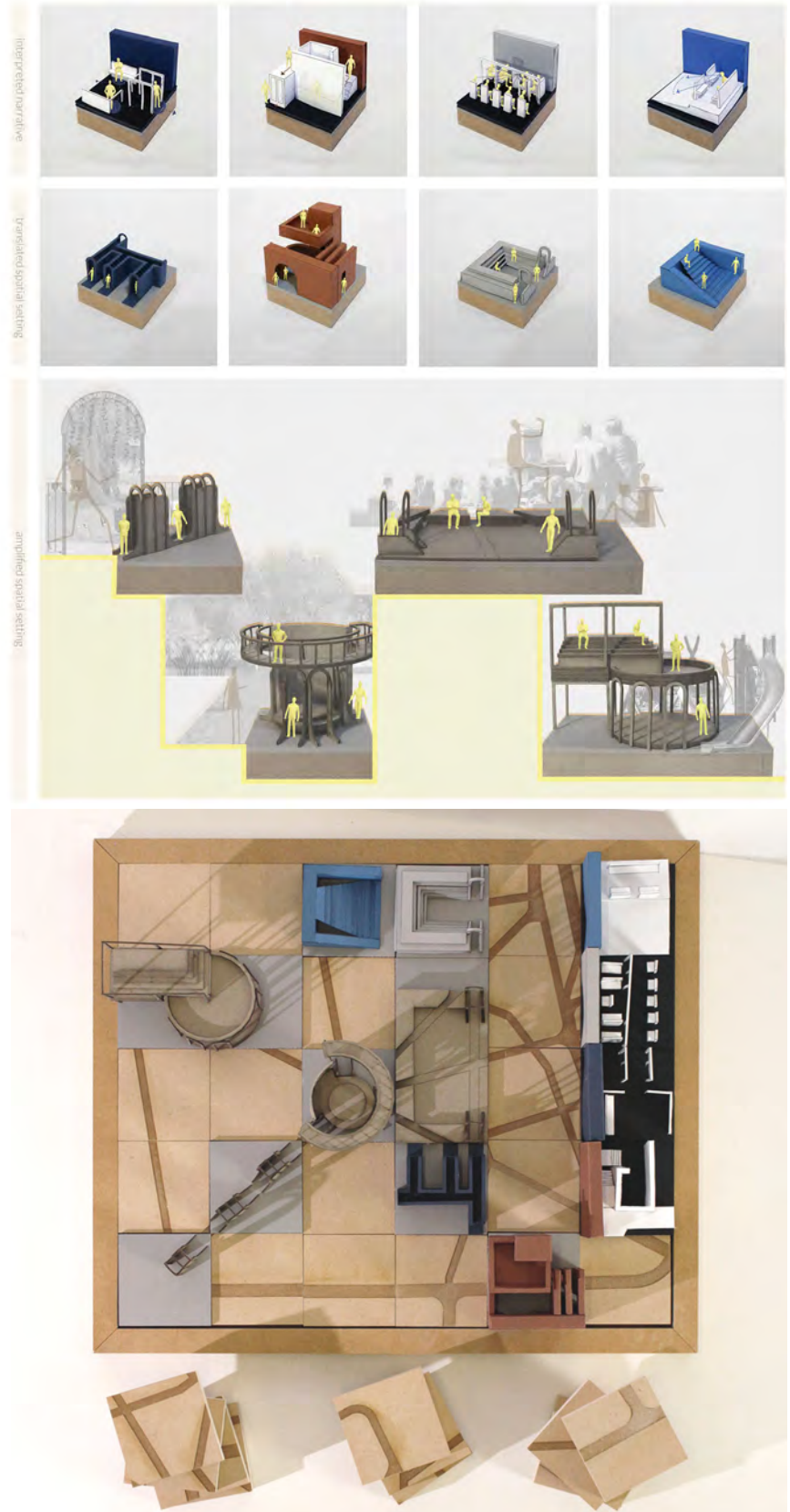


Image 01: diorama series with interchangeable site model
(paper models done at home)

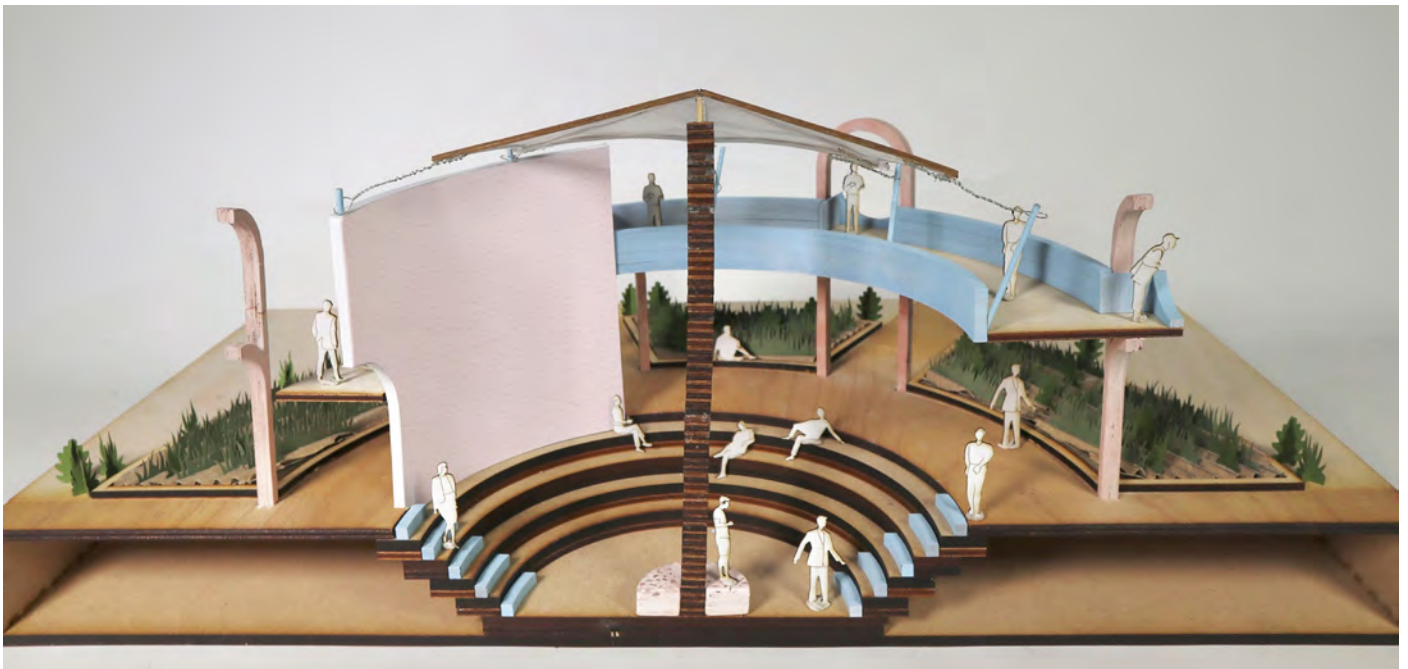


Image 02: intervention 1 - the unveiling arena
 (1:50 scale sectional model using plywood, cast plaster, paper, sheer fabric and wire)



Image 03: intervention 2 - parklet of possibilities
 (1:50 scale strip model using plywood, cast plaster with stones, paper, grey board and acrylic sheet)



Image 04: intervention 3 - concealed archway
 (1:50 partial model using mdf board for base, paper and sheer fabric)



Image 05 (left):
 intervention 4 - tower of curiosity
 (1:75 scale diorama to highlight hierarchy of facade using mdf board, plywood, paper, grey board, modelling board and sheer fabric)

Image 06 (right):
 material tests & exploration
 (cast plaster and jesmonite with aggregates)

Trisha Pradhan , Manchester

March Year 6 - Atelier: &rchitecture

Project: A Spatially Controlled Narrative

Practices Regulating a Woman's Reproductive Life-course

A Spatially controlled narrative is one of eight video performances that collectively investigates and explores Spatial restrictions women practice when menstruating. This is part of the research for the Thesis Project; Proliferating Compassion Permeating a Rigid City. The handmade card models along with other MDF accessories are used to summarise and relay findings of experiences of women in rural and urban contexts from Nepal, the UK and Romania.

In the Rural West of Nepal, women are restricted to living in the cow shed or a hut of similar spatial qualities when they are on their period and directly after childbirth. The blood stained fabric that's gets unravelled during two of the narrations represent the type of fabric women in rural Nepal use during their period. This is but an extreme version of the limitations women practice in daily spaces in urban and contemporary contexts. My mother experienced similar more contemporary restrictions whilst living with her in-laws, my grandparents, which inevitably were passed down to me if I was menstruating during a visit to my grandparents. These narratives are both represented through storytelling using the modelled replica of two floors of my grandparent's house. The contemporary findings from women in the UK and Romania were further narrative through the use of quick toilet and chair models and animations.

The frame structure and concept of narration came from an art performance by Emily Speed called Flatlands. Similar to her performance, each frame represents the story of a different woman. These frames fold and change to represent the ever-changing and evolving stories in space. Thus, the use of model making has been used as a research methodology to communicate the findings and re-evaluate the subject of the Thesis. This model gave birth to a concept later in the course of the Thesis Project. The liberation from the shame and fear that comes with different phases in a woman's reproductive life-cycle was expressed through an add-on-model that was attached to the Narration Frame. A stop animation of this model was made to represent the spread of courage and compassion as a concept for the permeated city.



Image 01: 1:20 scale models of two types of menstrual huts in rural West Nepal



Image 02: 1:200 scale model of ground and first floor on grandparents house



Image 03: Overview layout of models in a collective showing different narratives of different women on each frame

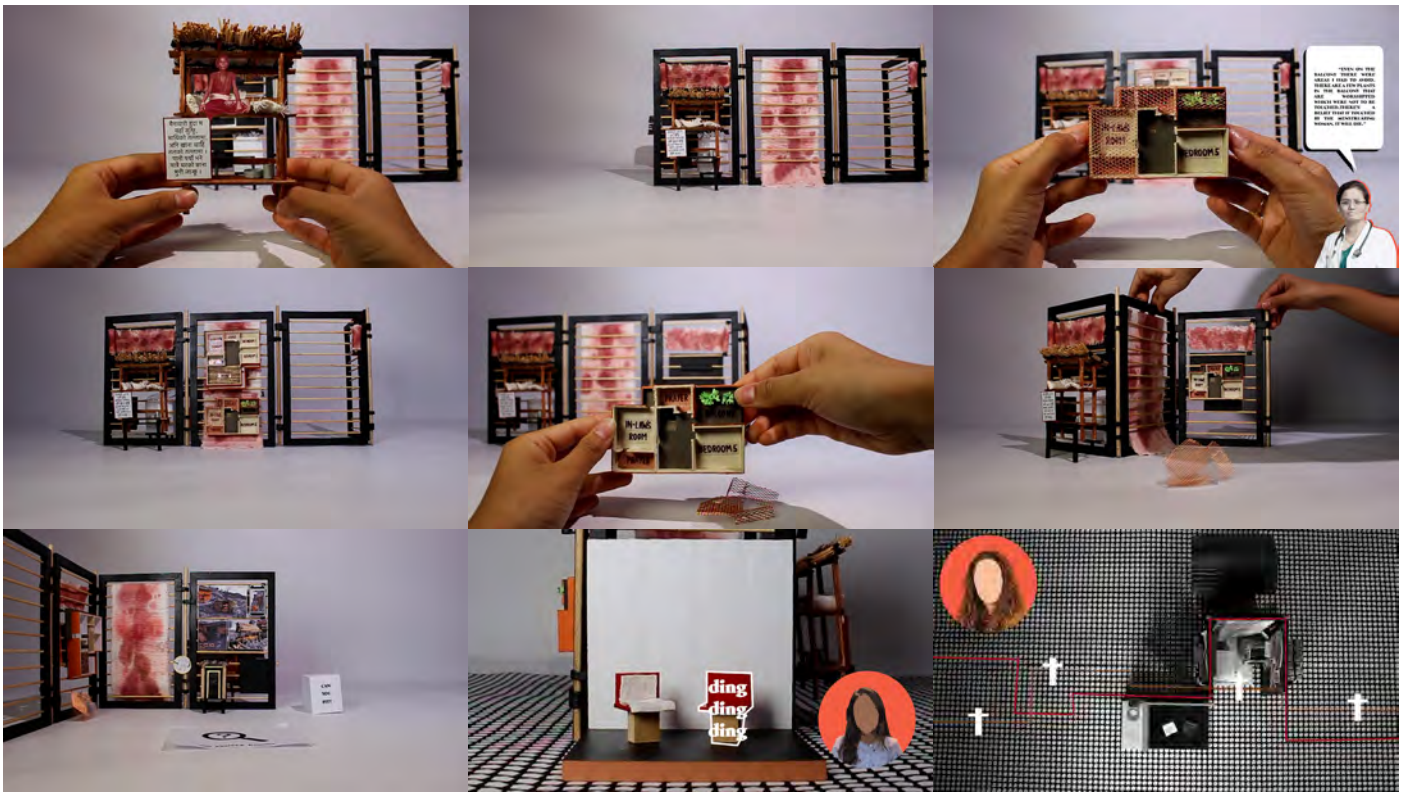
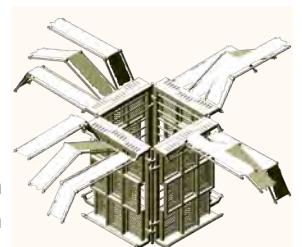


Image 04: Exported Frames from performance video using the model to narrate findings.



Image 05: Photographed Frames of the Physical Model showing the add on Model Attached to the Frames used to make the 'Liberation from Shame and Fear towards Courage and Compassion' Stop Animation

Image 06: Concept Digital Model for the 'Liberation from Shame and Fear towards Courage and Compassion' Animation



Shiwen Ng & Yunqi Zhang

March Year 5 - Atelier: Continuity of Architecture

Project: REUSED BUILDING: THE MAKERS REVIVAL

This project focuses on building reuse within a historical town located in the North West England called Accrington. Our design aims to be a new social hub of Accrington, bringing out the best of Accrington within the journey through the building. Given the challenge to reuse St. James Old School, we took the opportunity to preserve the original charm of the existing building while integrating newly added spaces for a new art centre. The spatial experience is planned for encounters and opportunities to different activities and views. Inspired by Carlo Scarpa, the journey is designed for engagement with the original building fabric and character whereby the building is an ornament and part of the exhibition itself. The physical model helped to explain the concept and the relationship between the old and new.

Our model represents the change of spaces from the existing main hall (red) into a new circulation space (white) that will act as a transition between the old and new. We chose to build it in a 1:10 scale as we want to highlight ornament as a powerful language for enhancing user experience while bringing out the the historical essence of Accrington as well as the original building. The floor are of herringbone pattern laser cut on plywood. To accentuate the transition from old to new, we decided to paint the walls in the new circulation space in white, to bring the attention of the user to its feet, which is the 'ornament' and the main highlight of the design. There lay a mosaic tile pattern (laser cut onto 3mm plywood) designed by us which is inspired by the Tiffany glass pattern found from the existing building. We wanted to not only introduce local features into the design but also focus on the act of stepping from the existing buildings' timber herringbone flooring into the new flooring made from thousands of mosaic tiles.

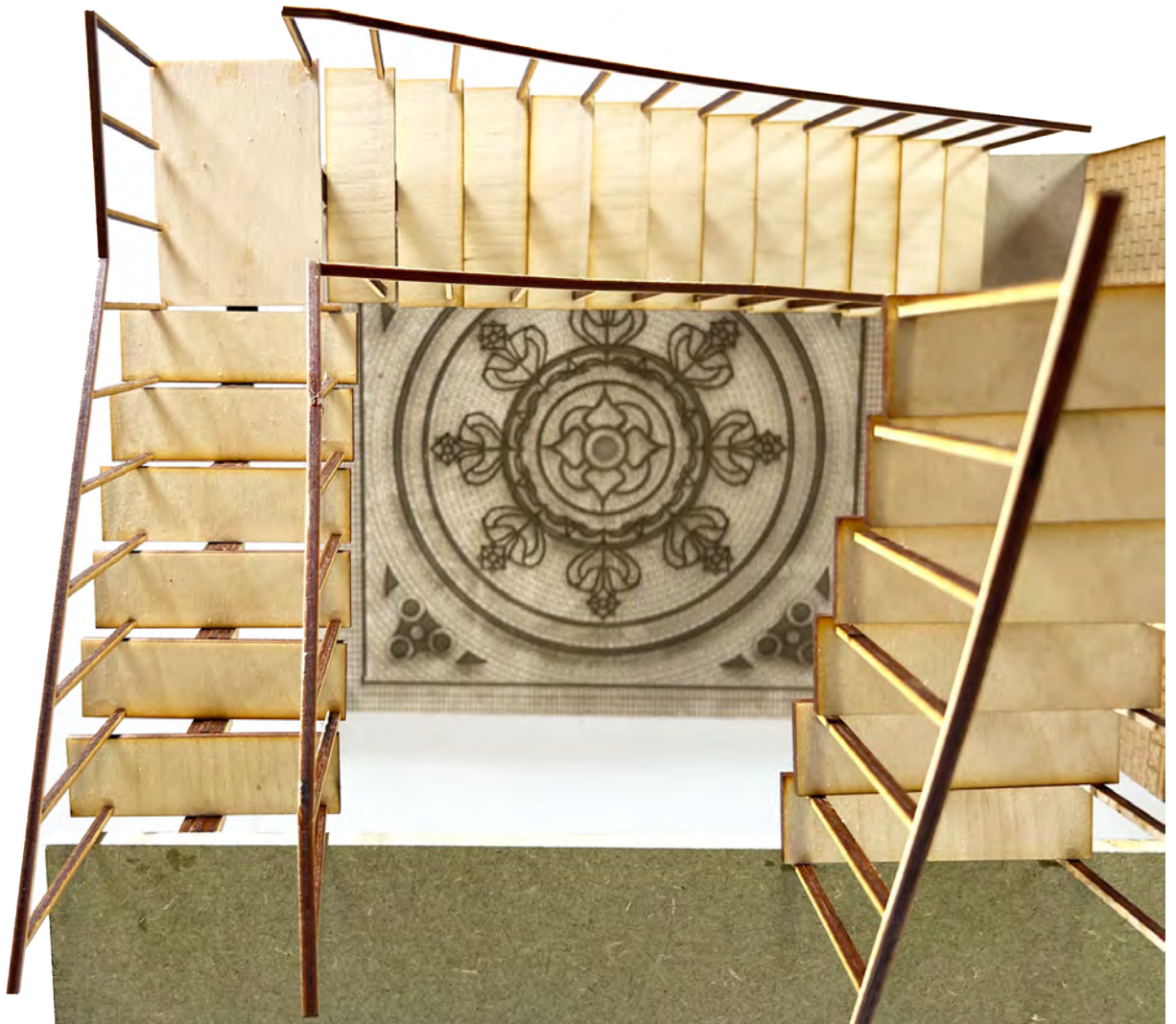


Image 01: Top View



Image 02: Perspective View



Image 03: Designed Pattern for the Floor



Image 04: Perspective View

Adam Valman, Hayden Moores , Fleetwood

March 2 - Continuity in Architecture:

Project: Clarity

A Repository for Fleetwood's Lost Thoughts

This project focus' on creating responsive dementia design through different lenses, forming a keen interest on memory of 'place' and how we consume and preserve a settlement's heritage.

The outputs create an extension to the town of Fleetwood's nerve centre, producing an urban plan that focuses on way-finding and the towns historical lighthouses with a new 'Clarity' lighthouse. The housings designs and interiors reflect on the ailments dementia patients face and focus on inclusive design as a solution to comfortable and secure living. The proposal finalises on a repository of memories on the seaboard, a structure that houses the nautical ideals of Fleetwood and provides a deep chamber of reflection to the visitors, in which memories are deeply stored, preserving heritage.

The site model allowed us to understand how the masterplan and it's public squares affect circulation, placement and form of the 'repository of memories', as we could start to volumetrically experiment using foam and light wood. This process was used iteratively with 2d designing and planning on paper to achieve a well-rounded and carefully considered approach.

The model making process began with CNC milling a block of black foam to create the contours of the site, footprints of the buildings and ridges that the clear acrylic could be sat on to form the waters surface. The buildings were then cut and sanded by hand using an iterative process for them to slot into the site. Lastly, due to it's more natural forms and curves, the lighthouse is 3D printed, plastered and chipped away at to create a worn, weathered building. This was all completed within the b.15 workshop using their tools to achieve the best results.

Creating a model of Shatwell Farm allowed us to explore a precedent that used rammed earth from the surrounding farm land to create the colonnade and arch, something we wanted to experiment with on our barrage. It was interesting that these parts then visibly reflected the process of adding new layers of fertile soil within farming. This was created at home using re-purposed wood, card, saws and wood glue to create this investigation.



Image 01: As one whole



Image 02: Cultural Heritage

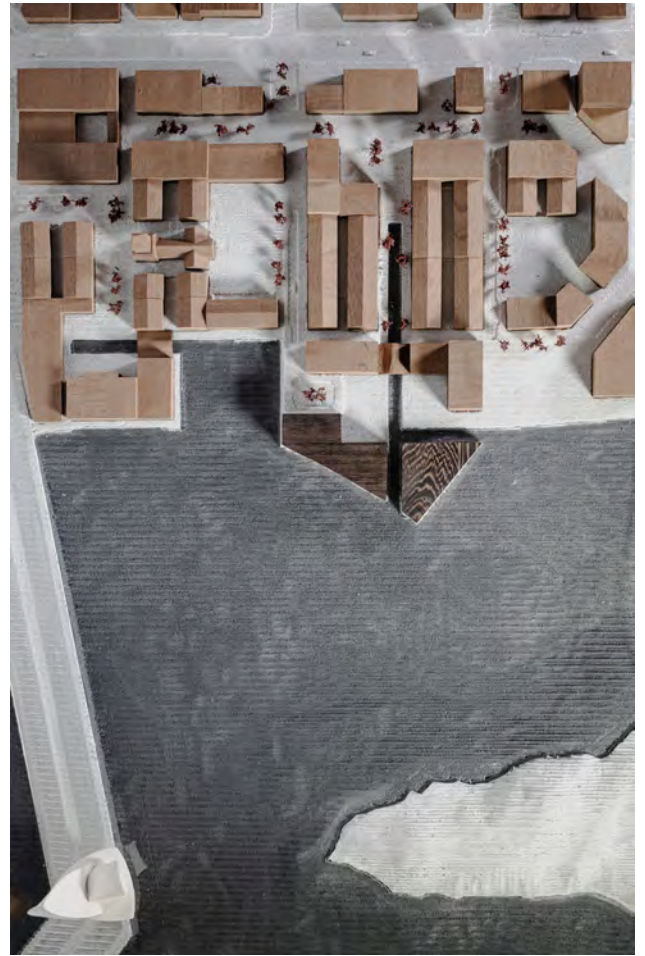


Image 03: Borders



Image 04: Shatwell Farm



Daniel Walsh / Robert Macleay / Ollie Radcliffe

March Year 6 - Atelier: Continuity in Architecture

Project: Industrial Futures

This thesis provides a holistic insight into the nature of Britain's ever-growing 'Industrial Ruin', understanding the current situation, and contemplating alternate futures. Sparked by the story of the Dorman Long Tower's demolition following its granting of Grade II listing status just 11 days prior, the contentious nature surrounding the destruction of heritage concerning disused industrial sites provides strong foundations for both a practical and theoretical investigation. Industry has shaped Great Britain, its towns, its people, and its social and economic structures; to continue the widespread removal of disused industrial architecture, and replacing them with ill-considered developments, is to undermine the histories, heritage, and wider significance they hold. The project seeks to investigate alternative methods of intervention to prevent the on-going demolitions of these sites through exploring theory, testing frameworks, and refining designs. Using Clipstone Colliery (Nottinghamshire) as its main study, the project explores a different approach to Adaptive Reuse and aims to reinvigorate a sense of place for the disconnected town.

The 1:500 scale model follows a unique architectural approach to masterplanning, and builds upon a theoretical approach taken earlier in the project. A series of 6 residential typologies were made by 3D printing the 6 dwelling, creating silicone moulds of each dwelling, and casting them using plaster and dye to differentiate between each. Each typology was designed with spacing fit-for-purpose. The process took place in the B15 workshop over a few weeks. Four grey-board bases were laser-cut to etch on key design drivers, such as subterranean mine-shafts, gridding, and axes. This type of modelling process allowed for a playful, hands-on approach with consistent separation distances between the housing units. This brought a real level of architectural rationale to the proposal and aided in producing a gradient of urban density in the proposal. It allowed for various iterations to be explored and particularly aided in offering a collaborative approach to the task, as we worked in a group of 3. This method of model-making was both enjoyable and extremely useful in progressing our masterplan to a sufficient level. It forms a key part of our project, allowing the final Masterplan drawings to flourish.



Image 01: Final Iteration Layout



Image 02: Housing Typologies



Image 03: Key Moves



Image 04: Iteration 1



Image 05: Iteration 2



Image 06: Iteration 3

Grace Corris and Karolina Vachalova, UK

MArch Year 2

Atelier: CIA

Project: Decadent reuse: Penhale Story

As a part of our Contentious Heritage thesis project, we have modelled the existing site of Penhale Military Camp. The site is located near to Holywell village, close to Newquay and was originally developed in 1939 by the Ministry of Defence as an emergency measure for training anti-aircraft gunners. The site housed up to 700 soldiers and was used for training as well as rest and recuperation once the soldiers returned from active service. It consists of 16 hectares and 97 buildings, has been derelict for 11 years and is now up for sale and under threat of development. Proposed residential development plans have been approved by the local planning authorities however the development is on hold due to local protests.

The model aims to communicate the 'uncanny' nature of the site and displaying the juxtaposition between the heavy mass of the cliffs and the light weight military structures and gives us a starting point during early stage of our project development. This landscape model is in scale 1:1000 and constructed in B15 using dense foam, foil, MDF, Polyfiller and acrylic paint.



Image 01: Model making process; using foam and foil to model the cliff volumes

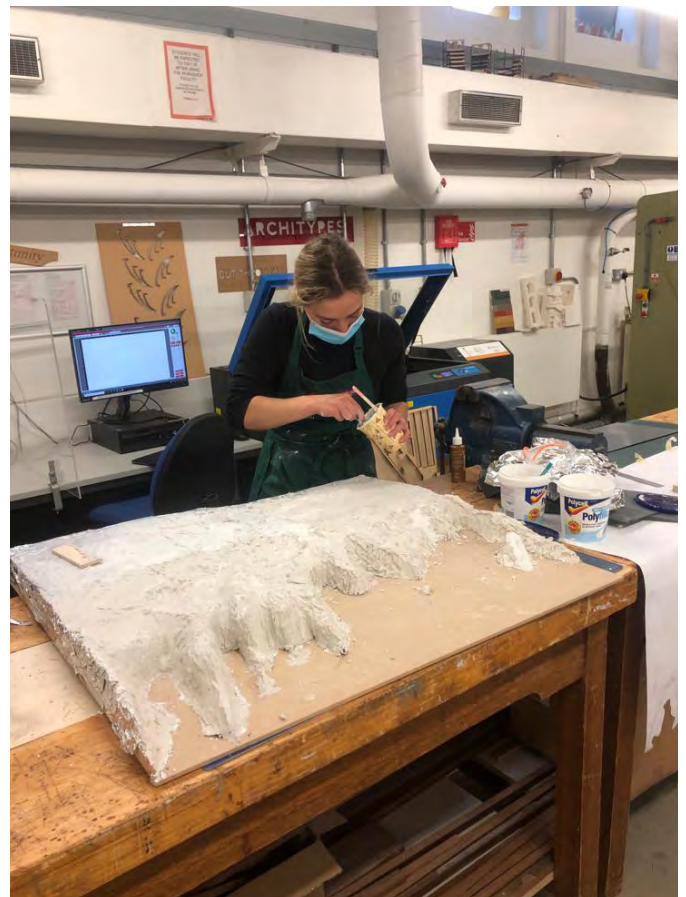


Image 02: Model making process; using Polyfiller to model the cliff details



Image 03: Finished model



Image 03: Finished model



Image 04 and 05 : Pictures of our model used in our portfolio portraying the atmosphere of the site

Hayley Sheldon and Billie Pritchard

March Year 6 - Atelier: CIA

Project: Denbigh Conservatoire

The former Denbigh Asylum has been left to ruin for almost three decades, its contentious past well known in the heart of North Wales. Despite this, the building holds fond memories of a close-knit community within Denbigh. We propose a new use, for this 'world within itself' as a Conservatoire. We question how we can tailor our approach to the adaptive reuse of the Denbigh Asylum to commemorate its associated memories and expose the scars present in the building's existing fabric?

Our thesis has developed from studying the routes carved through the site over many years. These routes informed a masterplan which we segmented into 5 differing zones: - The Park, The Village, The Woods, The Terrace and The Precipice. Each presents various design parameters suitable to different uses. The initial set of models represent a small portion of each zone.

Zooming into the central portion of our masterplan we identified a key processional route. To capture this journey a sectional model was created. The route begins through the main foyer, then into the formal courtyard, between the former epileptic wards and finally reaches the concert hall. The aim was to demonstrate the hierarchy of spaces a user experiences as they progress along the route. It has been made mainly at home with preparation of laser and 3D files completed prior in the workshop.

The existing built fabric has been 3D powder printed to capture the roughness of its scars. To embrace the dark contrast, the seamless black metal inserts have been formed using Black MDF with mitred eves to give the impression it is constructed from a single sheet.

Intricate details such as the plaster linings and light fittings have been cut from thin flexible ply and sprayed the appropriate colour. Bushes and plants have been hand cut and arranged in various ways to represent the vegetation left in the courtyard. Muted tones have been selected to adhere to the colour palette. Final touches such as the acoustic fixtures and pleated stage curtains have been sewn to fall within the space as they would at a 1:1 scale.

Image 01 : Buildings within the landscape - 1:200



The Processional route - A Sectional Model 1:100



Image 02: Sectional view slicing through the processional route



Image 03: The Informal Courtyard



Image 04: The Concert hall and Flytower



Image 05: An interior peek into the Foyer

Joseph Cox & George Williams, Manchester

March Year 6 - Atelier: Continuity in Architecture

Project: 'Rethinking Familiar Things'

The farm is a symbol of rural continuity. Their past is entangled in the present, yet anticipates the future. Our thesis investigates the contemporary role of Northern England's traditional farmsteads, attempting to explore how we may fertilise new life into them through alternative agricultural methodologies.

The existing site model of Manor Farm (Image 01) was made using timber and card. The base was CNC'd using plywood. The buildings were handcrafted using the band-saw and hand plane, with details laser engraved. The church, Cricut using greyboard, has multiple layers expressing arched window details. This model represents the existing farm and allows us to experiment with massing and drawing sketch proposals.

The (D)well model (Image 02) represents the first intervention of the Manor Farm site, used to express the approach of combining architecture and landscape within the wider proposal. The CNC'd mahogany base represents a series of controlled thresholds, contributing to the experience of the landscape. This model helps test different iterations of materiality whilst representing the final design for the intervention. From these iterations we decided on a patchwork of corrugated silver cladding acknowledging the materiality and form of modern agricultural structures, such as grain silos.

To repurpose Manor Farm into a community centre and biomaterial testing facility we used various adaptive reuse strategies, represented in a trilogy of 1:25 sectional models (Image 03-06). The patina of time evidenced in the brickwork of the existing buildings was expressed by pouring plaster into a greyboard formwork. New structural interventions such as locally grown hemp and timber panelling were represented in hand cut greyboard and balsa wood (Image 06). A separate approach to the Eastern Barn (Image 04) was used to highlight a contemporary portal frame addition (crafted using laser cut MDF assembled into I-Beams). The bases of each model (Image 04-06) are made from a variety of reclaimed timbers, cut and glued, creating a patchwork effect. This symbolises the adhoc approach to materiality on the farm. All three models were made so that they were demountable, allowing us to clearly highlight the addition of structure and new materials.



Image 01: Manor Farm Existing 1:100 Site Model



Image 02: The (D)well 1:50 Model



Image 04: Farm Building 1:25 Sectional Model Series



Image 04: Eastern Barn 1:25 Model - Additional Structure Supporting the Existing Building



Image 05: The Granary 1:25 Model - Elevational View



Image 06: The Western Barn 1:25 Model - Highlighting Reuse Strategy of New Internal Skin

Joseph Cox, Billie Pritchard, Alexandru Munteanu, Hanxiao Zhao, Thomas Massey & Fraser Mathews

March Year 6 - Atelier: Continuity in Architecture

Project: Quotidian Adventures

Frac Nord Pas De Calais - Lacton & Vassal

As part of the Quotidian Adventures seminar studies Year 6 Students were tasked with undertaking a model making case study of various buildings. The building that we did our case study on was the Frac Nord Pas de Calais by Lacton & Vassal and was represented in a 1:100 physical model. This building was an adaptive reuse of an old ship building warehouse that was converted into a modern art gallery. Lacton & Vassal took the approach of retaining and preserving the original ship building warehouse and designed an addition that mimics the mass of the original warehouse. Lacton & Vassal approach to materiality was to leave the existing structure in its raw state of dilapidated concrete and the modern addition to be done in light weight agriculture/industrial style materials.

The existing structure of the ship building warehouse was represented by using birch ply, kept in its raw state after being lasercut. A deep engrave was used to add relief to show the patterns in the original concrete walls. MDF was used to represent any new metal work in the existing side, such as the additional louvres and the lightweight truss beam and roof structure.

The concrete structure of the additional mass was represented in the model by using lasercut birch ply that was stained with mahogany stain. By staining the timber darker it highlights the contrast between new and old. It also creates a complimentary colour palette. The modern addition utilises two types of glazing, one of glass and the other of ETFE. The two glazing strategies were represented in the model by using clear acrylic plastic treated in different ways. To represent the ETFE it was left clear and to represent the glazing it was buffed with sandpaper.



Image 01: Frac Nord Pas De Calais - Highlighting Old and New Through Materiality



Image 02: Existing Structure Elevation



Image 03: Additional Structure Elevation



Image 04: Highlighting New and Old Structure

Juliet Tremble , Manchester

March Year 2- Atelier: Continuity in Architecture (CiA)

Project: Marple Community Centre

A wellbeing-focused project

My proposal for a wellbeing-driven community centre in the heart of Marple, Stockport consists of three buildings; for **movement** (swimming pool, gym, racquet courts), **learning** (library, dance studio, gallery, art studio) and **health** (GP, therapy, pharmacy). I used models as a tool throughout the design process from massing to detailed design.

The models I made include:

1. 1:500 Massing Model

Allowed me to explore the site in 3D and experiment with different massing forms. I sketched over the photographs of the model to develop the architectural expression.

2. 1:5 Detail Model

Displays the final detail of the ground floor - wall joint. It allowed me to rationalise the external brick bond and interior finishing.

3. Material Experiments

Explored existing & potential materials. In the example shown I analysed brick bonds using plaster casting.

4. 1:50 Technical Model

Helped to finalise the technology of the building and explore specific interior spaces in detail.

5. 1:200 Final Site Model

Displays the final design proposal for the community centre. By slowing down the design process and allowing me to explore each façade of the buildings in turn, the making of this model helped me to fully rationalise the design details as it was made.

I almost always make my models at home as I find the process of making them hugely therapeutic. I tend to use any materials that I can cut with scissors or a scalpel including greyboard, foamboard, balsawood, card, tissue paper etc. When casting, I use plaster of Paris, experimenting by adding anything I can get my hands on; stones, paint, sand etc.

Image 01: 1:5 Floor Joint



Image 02: Material Experiments



Image 03: 1:50 Sectional Model



Image 04: 1:500 Massing Model (with sketch overlay)



Image 05: 1:200 Final Site Model (looking above)



Image 06: 1:200 Final Site Model (main elevation)



Faizal Akalwaya, Manchester

March Year 5 (March 1) - Atelier: Infrastructure Space

Project: Haven Tower: Grimsby

High density, diverse living quarters

The Haven Tower project was designed in line with a strict high density residential development brief. The challenge with this project in particular was to accommodate for 30 dwellings on a constrained site, approximately 12m x 9m in plan. Additional requirements were to contextualise the dwellings to the wider site: Grimsby, and to draw a link between the development and the various offshore industries which reside in and around the area, as well as local development plans and North sea policy documents.

The manifestation of this brief comes in the form of a high rise structure, drawing off of modernist principles, namely; The Base, Body and Crown. To this end, the concept model for the development uses simple material cues to highlight the different programmatic areas of the building such as: the multi-faith/ cultural centre base, the residential body, and the roof terrace/ garden crown.

Each element of the model is made using a mass production method of single cuts or holes drilled with the help of guides and jigs. Through using the mass production method for creation of parts, each piece ends up as close to the next in size and shape as the natural materials permit.

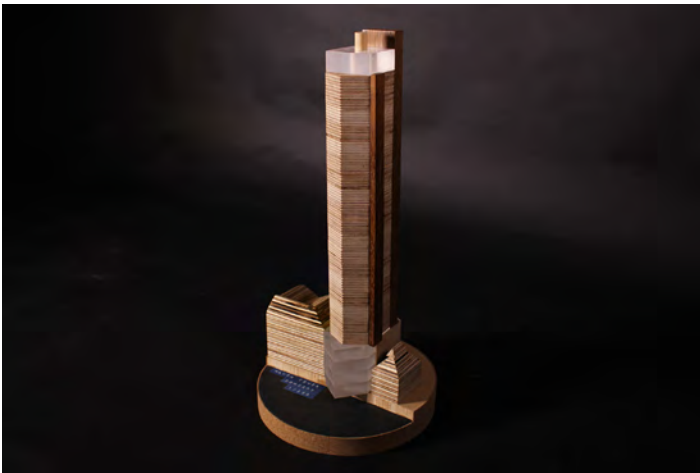


Image 01: Full model



Image 02: Crown - Clear acrylic, Core and projection - Walnut

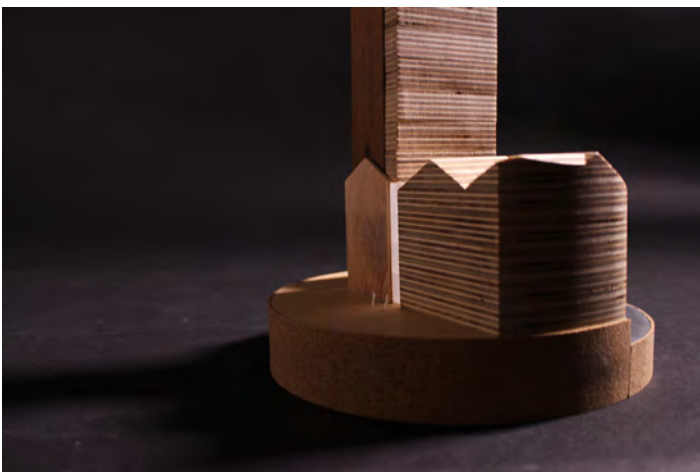


Image 03: Base facade on street elevation made to match adjacent building roof pitches

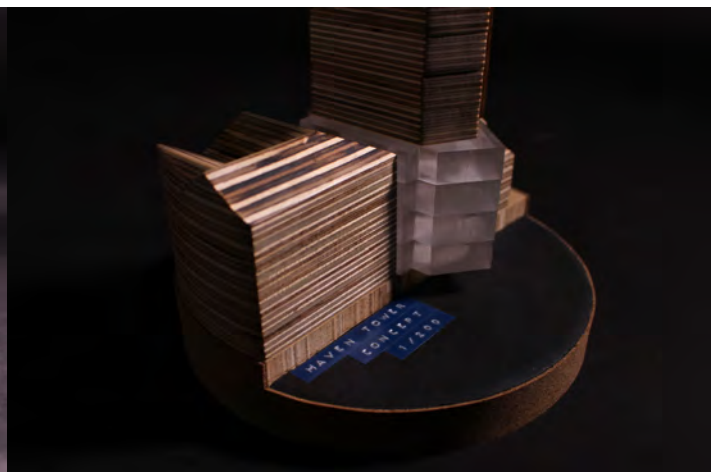


Image 04: Base overhangs onto the River Freshney, Acrylic has been used to represent the transparency of both the glazed envelope and the cultural programme aspect

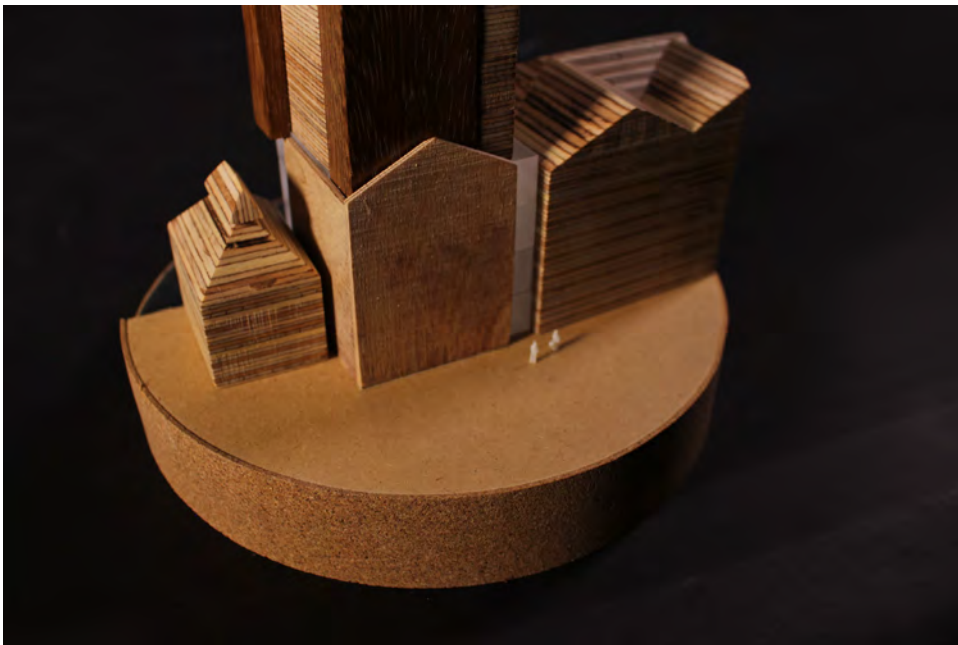


Image 05: Scale - 1:200 people placed on the base aid in adding a sense of scale to the highrise structure and context



Image 06: Corner view from street level



Image 06: Designed to be disassembled

Harry Edward Tate , Manchester

March 1 - Infrastructure Space:

PS2: Grimsby Glass Works

An Adaptive Re-use of Grimsby's No.2 Fish Dock

My PS2 project is concerned with the re-purposing of a defunct concrete fish market alongside Grimsby's No.2 Fish Dock. My proposal aims to bring new life and industry to the site, activating the area through the formation of a salt marsh within the Dock. This offers a new sense of productivity through the cultivation of samphire which, when burnt, yields soda ash – important to the process of glassmaking. Thus, my project proposes a new use of artisan glass making for the former market, which sees the introduction of a trio of chimneys to the overall composition of the building.

All models produced during this project have been made from home, primarily from card. Card came to be the primary material as it is easily cut and glued by hand, requiring few specialist tools or equipment. The great variety of card colours available offers visual expression of materials and palette – in using standardised colours I have tried to remain consistent in usage to maximise the suggestion of materiality. For instance, a speckled grey signifies existing concrete.

The first model made was a 1.200 section slice of the existing building with dock. This model was critical in communicating the initial proposal of a salt marsh – later represented with an insert. A later equivalent model demonstrates the proposed interventions to the building.

A key model in the development of the project was the 1.50 structural model which assisted in understanding the implications of inserting a chimney within the existing building. This model was designed to be fully dismantlable so that pieces of structure can be removed for testing. This was achieved by hand making pieces of structure from styrene lengths with notches to slot them together. Everything is held in place with a plaster cast base for weight and stability. Proposed interventions in card can then be added.

Final presentation models take the form of a 1.20 section of a marsh walkway and a whole site 1.500 model. They represent opposite ends of the scheme, breaking down detail and massing strategy respectively, as well as shared ground through suggestion of materiality and colour.



Image 01: Existing 1.50 Structural Model (Styrene, Plaster)



Image 02: Proposed 1.50 Structural Model (Styrene, Plaster, Card)

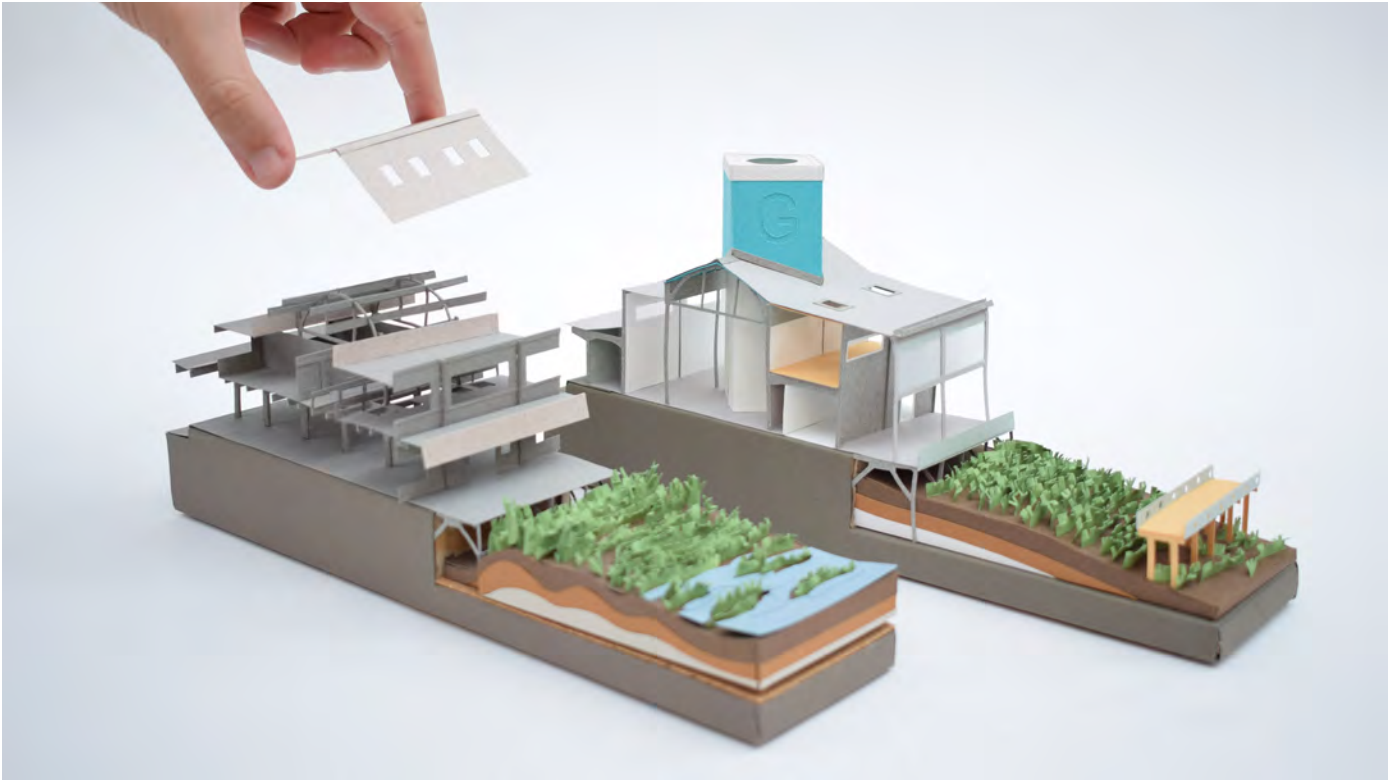


Image 03: 1.200 Section Models, Existing and Proposed respectively (Card, Tracing Paper)

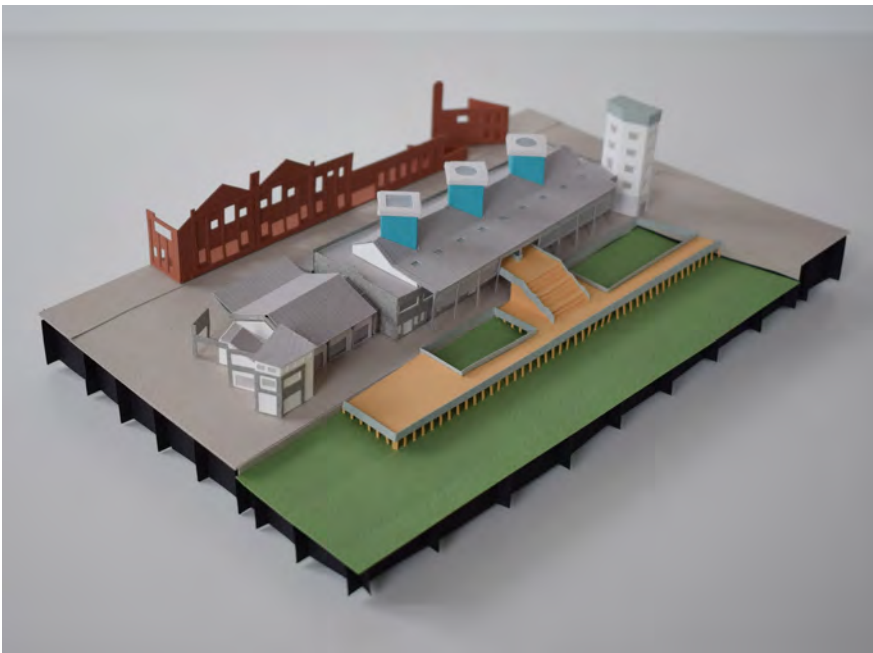


Image 04: 1.500 Proposal in Context (Card, Tracing Paper)

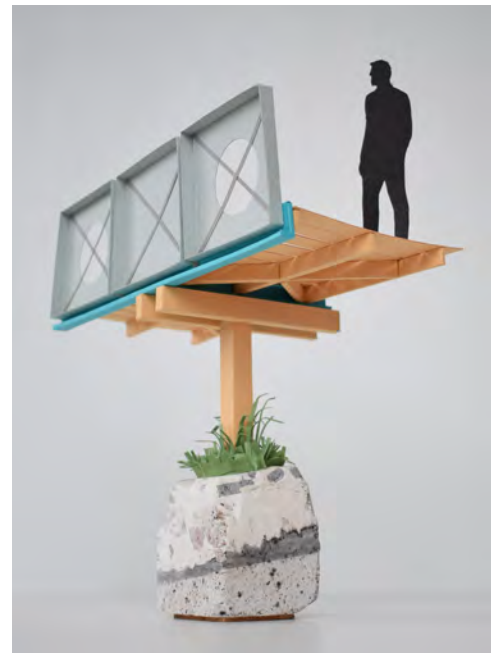


Image 05: 1.20 Walkway Section (Card, Plaster)



Image 06: 1.500 Proposal in Context, Night (Card, Tracing Paper)

John Dollosa & Peter Staniforth, Manchester

March Year 1 - Atelier: Infrastructure Space

Project: Plus+ic

Circular Additive Manufacturing through Marine Plastic Waste.

Our project is set in the coastal Town of Grimsby, UK. Grimsby is historically known for being the biggest fishing port globally in the 1950's but fell into decline around the 1970's and have not recovered since. Additionally, Grimsby, being a coastal area, is facing the vast waters of the North Sea - a geographical entity in which our brief also required consideration. Our conclusion was to address the overlooked crisis of increasing marine waste endangering oceanic ecosystems and collaterally affects humans. Our research finds that plastic is the largest contributor to such corruption.

Reflecting such findings in conjunction with geographical location and historic culture of Grimsby, our scheme proposes to harness Additive Manufacturing, specifically 3D printing, that feeds off plastic waste collected from the North Sea and the town itself. This proposes a circular process as any printed entity can be re-inserted back into the production line. The idea is to allow local production of sustainable plastic entities including public benches, bus stops and more importantly, its utilisation in architectural settings such as new builds, exhibitions and renovations. Ultimately, this is to become Grimsby's bridge to revitalisation and evolved identity as the town of sustainable plastic vernacular.

Through modelmaking, we were able to simulate this concept at a 1:25 scale. We explored the methods of EXHIBITION, RENOVATION and REPAIR. Initially, we digitally modelled and 3D printed a central portion of Grimsby's Ice Factory. We then used this with silicone to create a mould. Afterwards, we used the mould to cast a plaster version three times (one for each method):

EXHIBITION - Undyed like white buildings + Superimposed 3D printed sculpture on top simulating exhibition pieces.

RENOVATION - Dyed to represent brick + Superimposed 3D printed voronoi facade.

REPAIR - Dyed to represent concrete. Purposely broke off a fragment to show damage. The broken area is 3D scanned and plugged into Meshroom to generate a 3D model. The broken area is then subtracted from the original digital model. Finally, the remainder portion is 3D printed and placed on the broken are to simulate real life repair.



Image 01: (From left to right) 'Repair', 'Exhibition', 'Renovation'

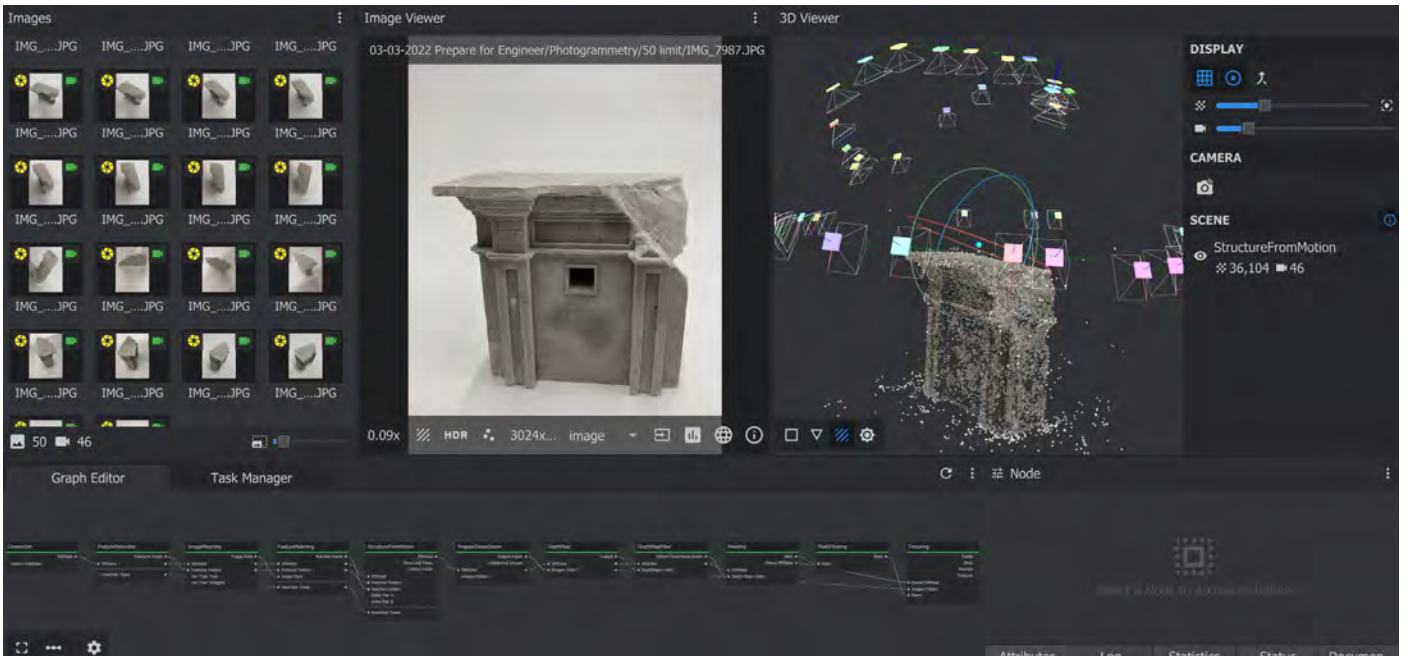


Image 02: Meshroom Photogrammetry to scan the 'broken' area and generate a Digital Model for 3D Printing 'Repair'.



Image 03: Process Diagram for 'Repair'



Image 04: Close up of 'Repair'



Image 05: Close up of 'Exhibition'

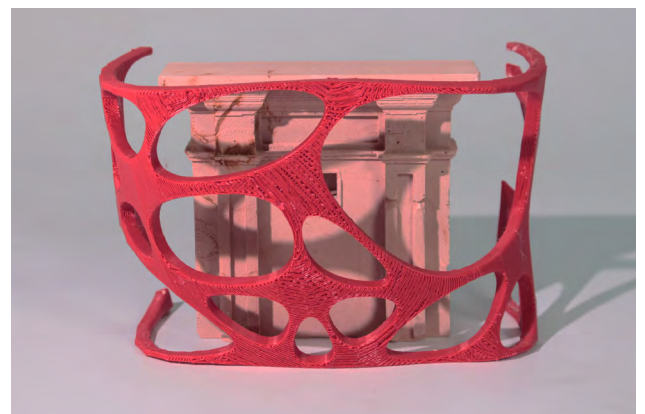


Image 06: Close up of 'Renovation'

Abbigayle York

March Year 1- Atelier: MAKING

Project: The Barn - A Complex Climate

Mist Opportunities

The project's brief challenged us to transform a derelict barn into a summer school. Situated in Monyash, a rural area within the Peak District, it's surrounded by its own unique landforms generated by its misty climate and local biomes. The core of the barn's structure demonstrates the barn's history and decades of repair work. I proposed to use this knowledge to not only respectfully continue the barn's heritage, but also as a visual teaching aid demonstrating material decay in misty climates.

My proposal recycled materials stored within the barn, creating a space within the summer school to monitor material change within the climate and the local species that thrives within these spaces. I specifically selected materials that encourage repetitive condensation within the space, such as glass and steel to encourage rapid cooling. The cool atmosphere creates a reaction with the natural humidity, creating an enhanced misty atmosphere. This atmosphere would provide the students with a testing area, allowing students to test their prototype models in an enhanced version of the local climate.

I constructed the model at a 1:50 scale, using laser cut wood to replicate the existing structure of the barn, with a cork etched base and a resin pond, demonstrating the proposed locations of the stonework path and habitat spaces. The supporting structure was constructed using plastic I-beams. I used the model to investigate where the atomising misting nozzles should be positioned to create a large area of constant vapour. The experiment helped me to understand that the height of the nozzle doesn't affect the amount of time that the mist hangs in the air, but rather that the amount of mist produced is the same over a smaller area, resulting in denser and more visually appealing mist at lower nozzle heights. Based off my findings, I was able to identify the heights of my nozzles, by using a 5m height nozzle to fill the room with mist and placing an additional 1m height nozzle to precipitate denser, more visible mist at a ground level accentuating the experience of walking through a natural, but somewhat uncommon, world phenomenon.



Image 01: A perspective showing the final proposal



Image 02: A render based off the model demonstrating the user's experience.



Image 03: Shows experimentation with the nozzles at 5m height

Image 04: Shows experimentation with the nozzles at 3m height



Image 05: Shows experimentation with the nozzles at 1m height

Ahmed Ali

MArch Year 1 - Atelier: Making

Project: The Exposed Reservoir

A multi generational home

The multigenerational home was proposed on the bank of the currently damaged and unused Toddbrook Reservoir, which is due to be repaired with a new slipway. The building acts as a watchtower that would look over the dam, while also demonstrating a response to a variance of brownfield site conditions and harsh climate within the area. Due to the site being exposed to the water from the reservoir, wind would have the opportunity and potential to gain speed and force, by passing uninterrupted, over the water.

Model making was vital for this design, as there was experimentation as to how to mitigate effects of harsh wind climate on the building, primarily by using the bottom of the building to create an air dam. This would compress wind as it came under the building, and force it out of the back, creating a lower air pressure, pulling the building down during strong wind events. This effect is referred to as the 'Bernoulli Principle'. Since this would be the principle model to demonstrate my design, creating it within the B15 Workshop allowed me to create a high quality piece of work.

As most of the testing of the model was done digitally, it was important to demonstrate and bring attention to the nature of the bottom of the building physically. The 1:25 model displays the integration of the air dam with the overall structure of the building, showing that it can be built as intended and be robust enough in its construction to withstand wind loads. Materiality was also important, as an ecological approach, and location next to water pushed me to use materials as similar as possible to those that would be used in the actual construction of the building. Examples included cladding materials of ply used to imitate marine grade ply and strips of timber to imitate the wooden flooring inside. Finally, the model provided an opportunity to experience the internal spaces created by the arched windows and light chimneys, along with part of an inhabitable wall that would serve to provide functions to each generation of the multigenerational home.

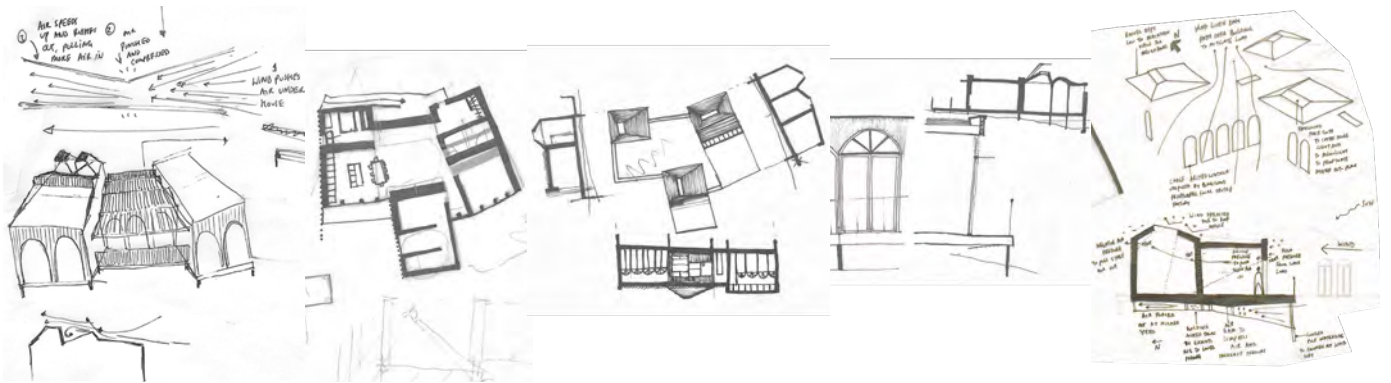


Image 01: Sketch Process

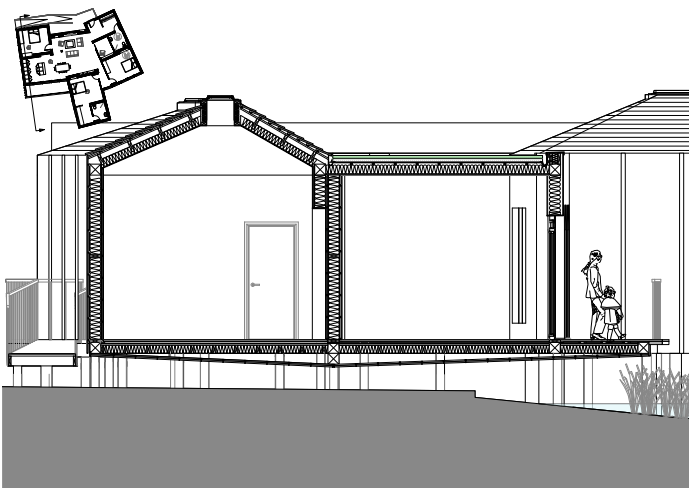


Image 02: Detail Drawing of Proposal

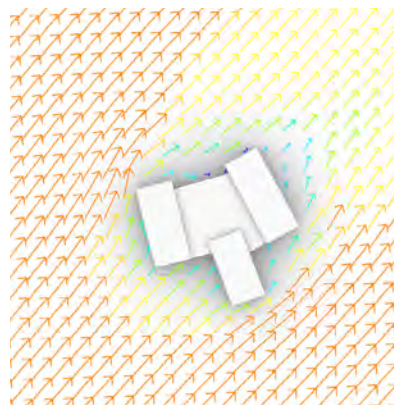


Image 03: Wind Simulation Analysis of proposal



Image 04: Facade Treatment - Wood, Perspex, Steel

Image 05: Internal experience, Air dam and structure buildup, inhabited wall and light chimney



Image 06: Roof Treatment, internal flooring and outdoor decking



Image 03: Accommodation Concept Model - Interior View.

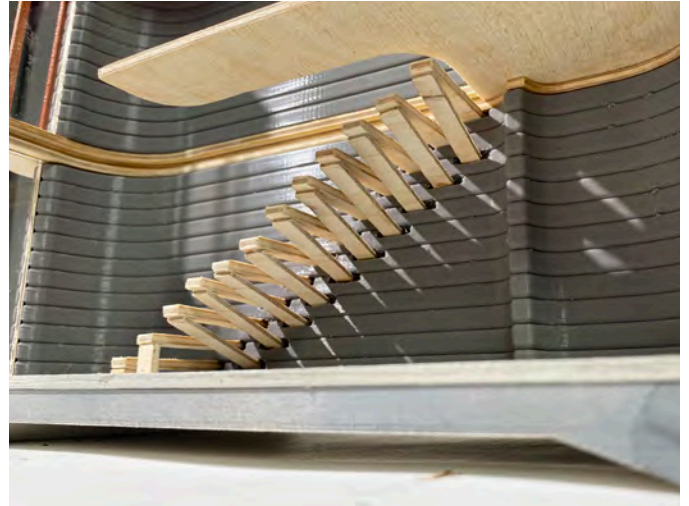


Image 04: Dividing Wall Sectional Presentation Model - Interior View.

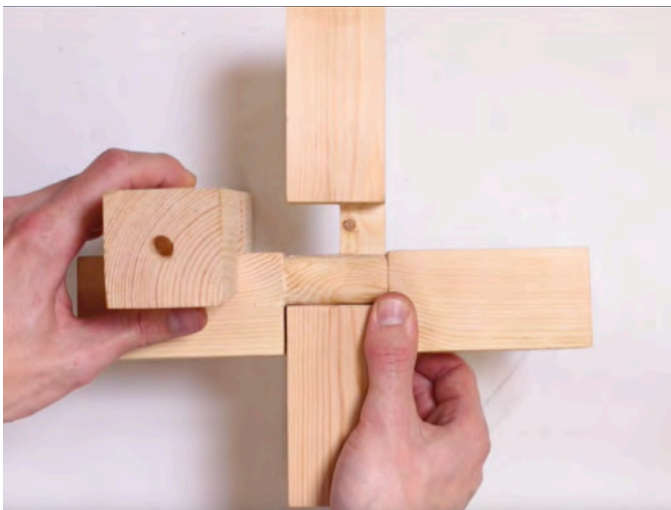


Image 05: Chidori Joint Detail Model, 1:5.



Image 06: Multi generational House Concept Model - Exterior View, 1:200.

Hiu Tik Li, Hong Kong

March Year 1 - Atelier: Making

Project: Multi-generation housing

exploring the relationship between body and digital infrastructure in the new reality

The concept of the spine inspires model making. It is a mechanical sensorium for receiving the data of humans and then transmitting it to the internet. With the ubiquitous digital world, the inclination of living eventually reduces to the connection of the internet that almost encompasses the essence of living on earth. It is creating two different realities as it accelerates the speed of living according to French philosopher Paul Virilio. Therefore, how to improve the connectivity between the digital world and our body is a critical branch of study in order to enhance the practice of virtuality in the physical environment.

The role of model making helps to understand the scale of design, materiality, assembly and what technology can be used to transform architectural concepts into the physical model for the presentation of the project. In the beginning, this concept presents through the sketching of the spine on a 2-dimension medium. The digital model is to visualize the thinking and rationalize the detail of different parts. The model making examines the thinking process that repetitively adjusts the design concept and resonates with multi-disciplines knowledge in this model. 3D printing help to generate different parts of the 1 to 5 physical model from PLA printing. The manual process is to assemble these small parts with the improvisation of physical model techniques, such as visual representation, level of detail and selection of material. All these processes happened in the B15. workshop area that includes changing the 3D printing model to the joinery of the small pieces.

The spine tube conceives as a multi-functional element in this project; it conveys the sense of humans to the internet. At the same time, it is a structural member to support the roof solar glass panel for generating the electricity in the off-grid site rural area – Furness Vale nearby the peak district.

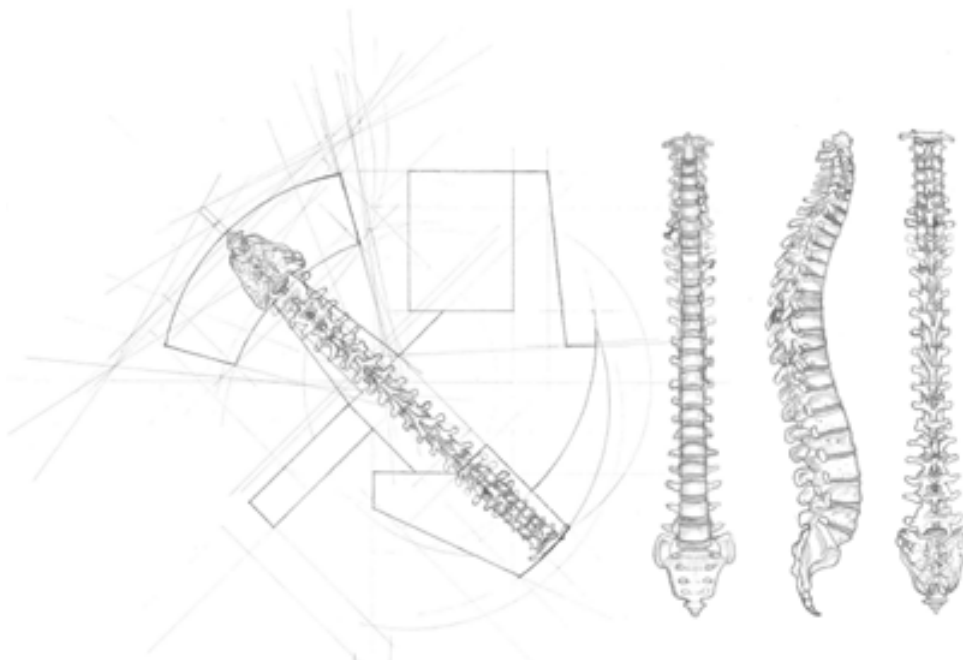


Image 1: The sketch integrates the spine with the architectural layout as the crucial element in the design process.



Image 2: The concept of the spine transforms to the digital detail in 3D modelling software that is developing the architectural detail.

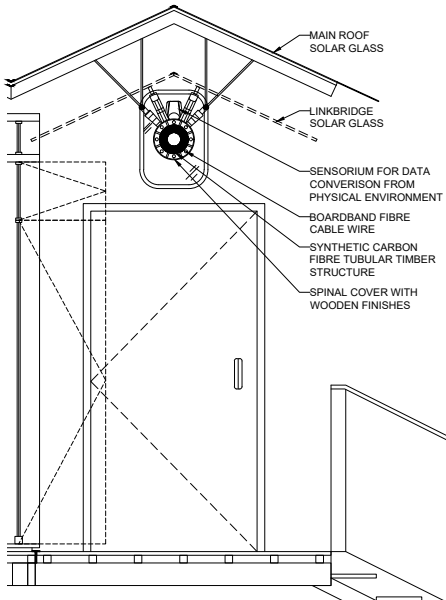


Image 3: This prototype is experiencing the making of a new architectural concept in reality.

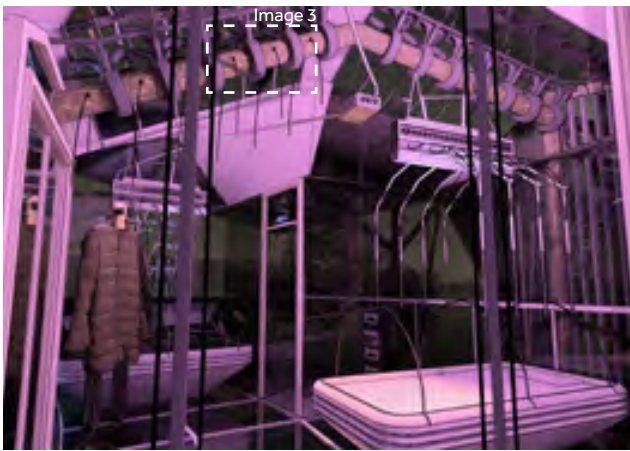


Image 4: The image simulated the interior of the incubator.



Image 5: The laser cut and 3D printer produce different parts of the model. There are several iterations for improving the precision and design of the model during the model assembly.



Image 6: The plan and digital visualization render the ambience of virtuality in architecture.

Philippa Smith, Manchester

March Year 2 - Atelier: MAKING

Project: Contemporary Vernacular

A Modern Bothy at Culkein Stoer

My thesis project has two sections based first in Monyash, Derbyshire, and then in Culkein Stoer, Sutherland, Scotland. My final outcome was a contemporary bothy that reused an existing ruin as the outer shell. I used physical model making to help me work through my design process.

I began by investigating textures and the effect of natural light on materials abstractly so to be able to represent these quickly and easily through material choice and lighting was important to my early development work.

Other models were used to show others what my concept was about. I found elements of the design such as the impact of the topography or the existing roughness of the stone difficult to get across in quick sketches, however, with a variety of modelling materials I could represent it clearly. These were at a variety of scales, from a 1:5000 landscape model to 1:200 paper sketches that could be placed within a greyboard ruin.

I used physical models to demonstrate construction build-up at 1:50. By working with precedent drawings, and building my own design in three dimensions, I was able to understand what I was putting together, so then my final section was better informed.

I made all my models at home. I worked with balsa wood and a variety of paper and cards. The cutting was done with a scalpel, and the joining was done with hot glue or UHU. This made the models quick to construct, sturdy enough to handle, but also deconstructable as I worked through and changed the design. In the first studio, I also used plastic mirrors and some solid wood. For my later models for the bothy, I used air-dry clay for the stonework as I could create more texture in it. I used felt to represent wool insulation in the roof and walls. If I had more time and worked at a larger scale I could have begun investigating the methods of joining elements, but the largest scale I modelled at was 1:20 and it was too small to be able to develop that appropriately.



Image 01: Abstract lighting experiments with mirrors in Studio One.



Image 02: Topographical model of Culkein Stoer, Scotland.



Image 03, 04: Sketch models using the same frame. Experimenting with lighting and fenestration.



Image 05: Model progress showing the interior build up with insulation and battens.

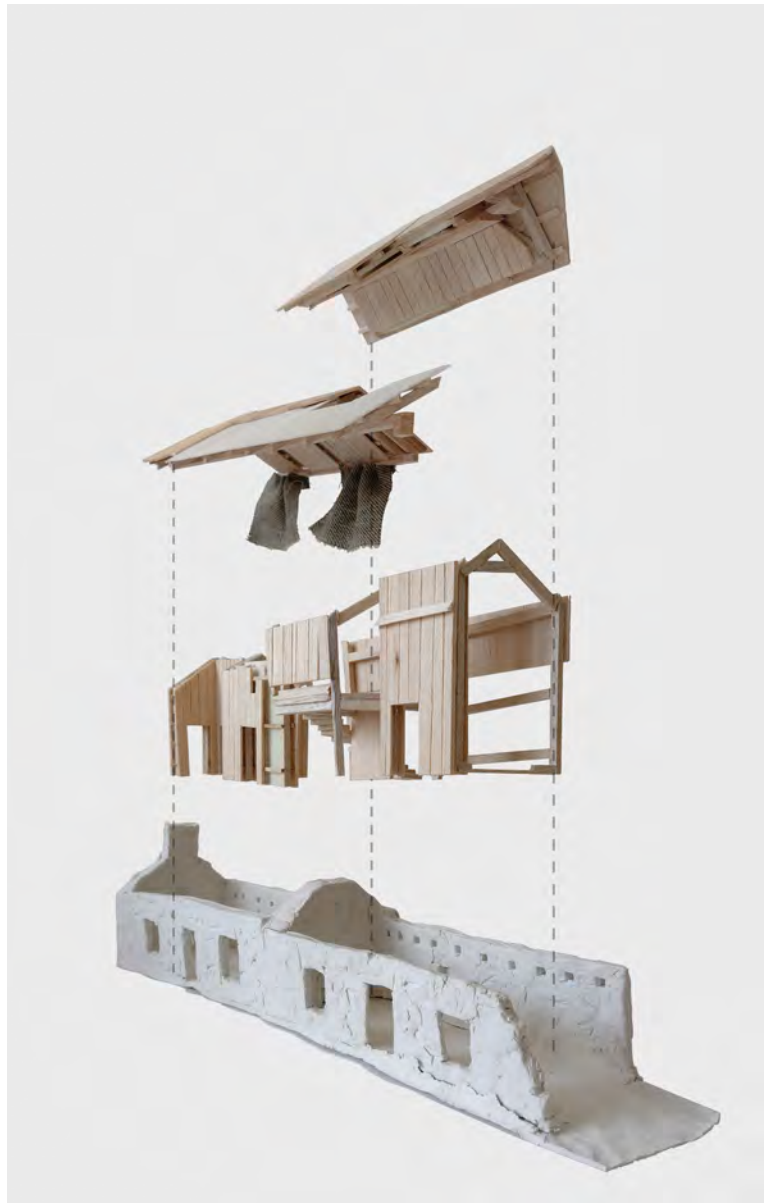


Image 06: 'Final' model photograph taken as an exploded diagram.

Tom Roylance

MArch Year 2 - Atelier: MAKING

Project: Desire Lines of a Ghost-to-Be

The Nomad Dwelling navigates a route from dale to peak, through an ancient landscape. This sheep's wool felt tent temporarily occupies but does not disturb each site. Permanent interventions are proposed along the journey, each responding to varying topographic conditions and connected by views and "desire lines".

The models presented here show the development of the dwelling from an early concept of a tripod wrapped in wool felt which has a single window to frame views along the journey.

Modelmaking was used to meet the challenge of making something that was light enough for two people to carry across difficult terrain, but which could create a large enough volume to be a generous interior space. The idea of plywood strips in tension to produce a larger volume was discovered entirely through modelmaking and similarly, the joints which connect these strips to the timber structure were made possible through testing at a 1:1 scale.

Sheep's wool felt was in keeping with the materiality of the peak district landscape and its weighty but drapable quality was exploited in the way the cladding was attached to the frame.

Image 01: Sketch Process

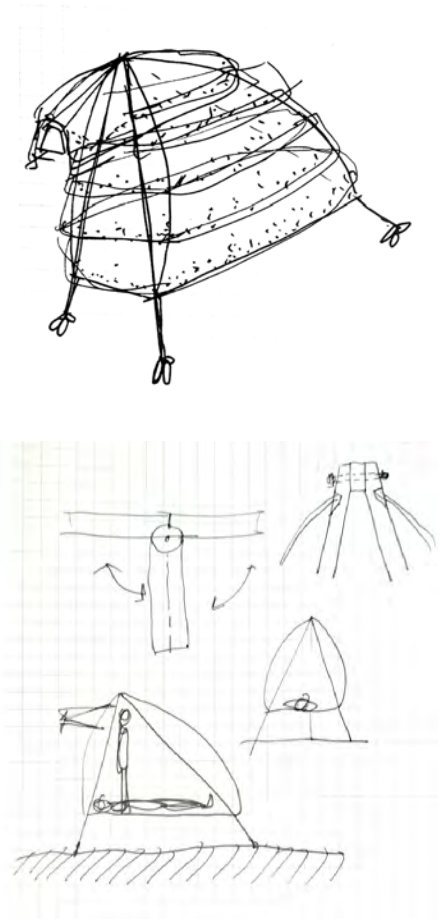




Image 02: 1:10 Structural Model - Plywood Strips, timber sticks, steel wire "bolts" (to allow movement at joints)

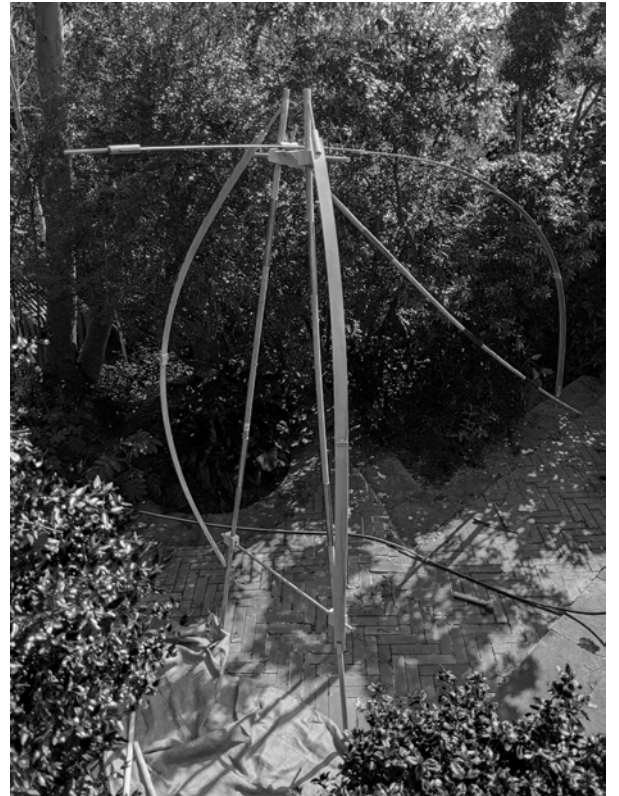


Image 03: 1:1 Structural Model - Timber poles, plywood, timber details (failed due to weak timber poles)

Image 04: Final 1:1 "Nomad Dwelling" - Timber posts, plywood strips, sheep's wool felt



Zhuoping Sun

March Year 2 - Atelier: MAKING

Project: Back to Nature

Spatial structural envelop system

The research topic of this project is about the renovation and upgrading of the façade of existing buildings to improve the internal human comfort and external urban environment back to nature. Based on an exploration of the building skin structure, finding a vertical green space, allowing plants to encroach and expand in human space, providing an alternative solution for urban greening. Other than that, the building's operational carbon is neutralised by further iterations of the skin structure, installing green energy panels such as photovoltaic panels and biomass panels between each unit to reduce carbon emissions. Ultimately, the envelop system is applied to the existing building surface for environmental improvement, while the excess green energy also enters the national grid as infrastructure for the city's distributed energy network.

This model was designed as an iteration prototype for testing the structure of the proposed skin system, all-in-one can be flexibly bent and curved with the help of the different 3D printing materials. The structural flexibility of the design was highlighted by dissolving the support material in hot water, enabling flexible adaptation to various curved surfaces. The highly refined modelling of the attachment points allowed for a range of movement for each of the attachment legs, ultimately providing sufficient flexibility for the entire envelop system.

The final model turned out to be satisfactory, despite the limitations of the print size, the prototype consisting of several units adequately demonstrates that the system structure is up to the challenge of curved surfaces. The model omits the steel cables in practical applications in order to experience the flexibility of the system, but the final structure will be fixed with cables to accommodate different curved surfaces and its application scenarios are not limited to building skins, but can also stand on its own as a spatial structure, such as shelters and pavilions.

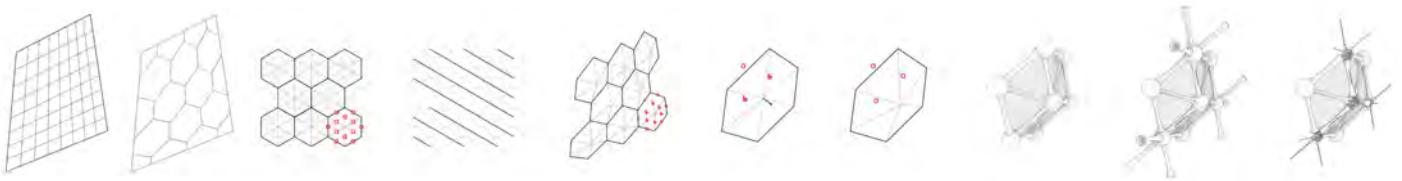


Image 01: Structure system optimisation process

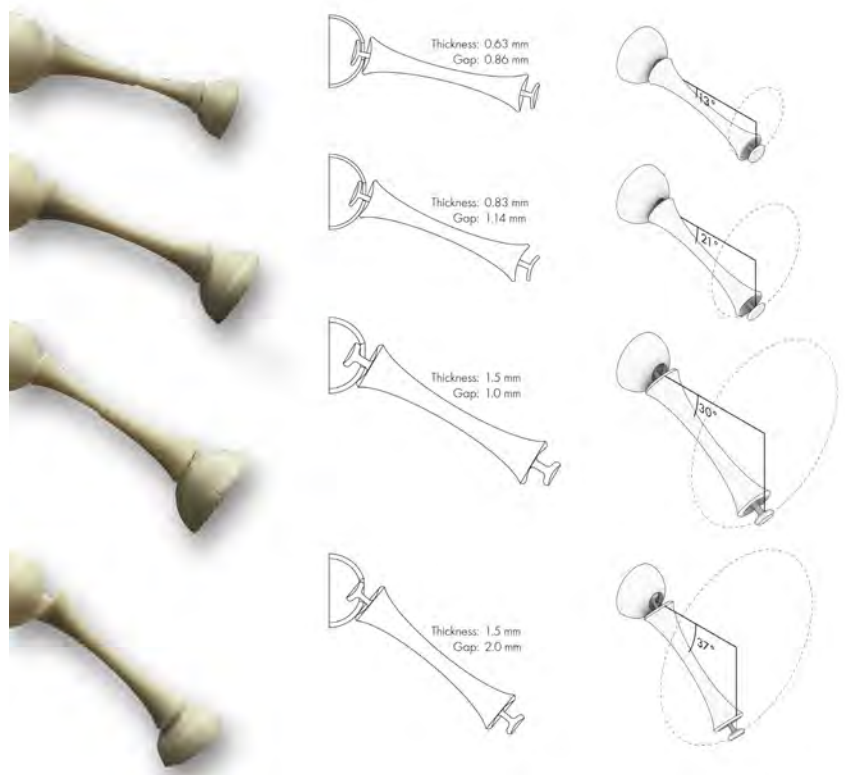


Image 02: Iteration model
Test 3D printing gap and thickness

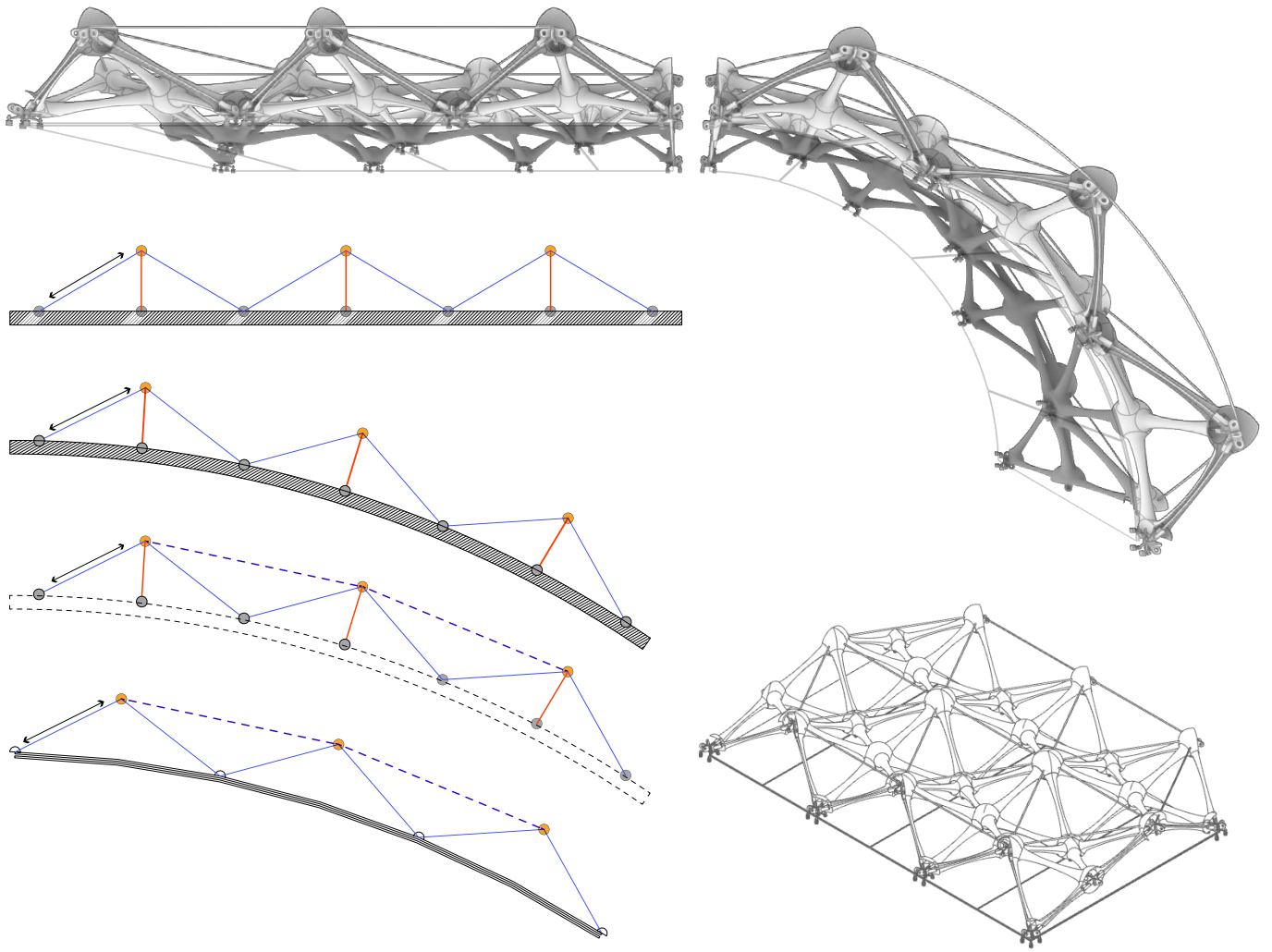


Image 03: Proposed structural fixing with tension steel cables

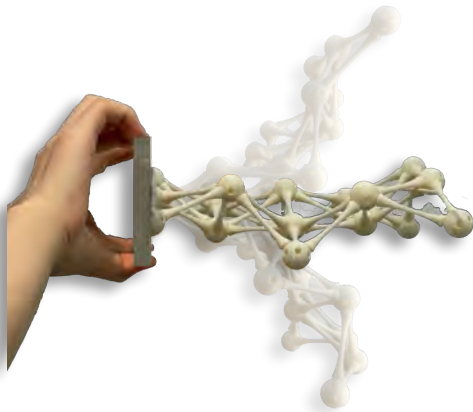


Image 04: Bending test

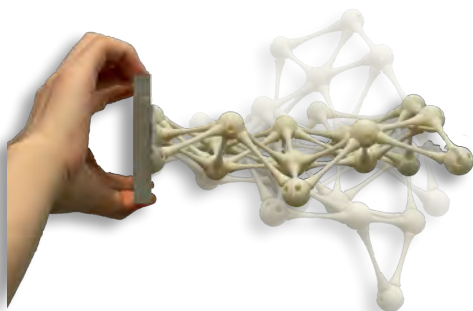


Image 05: Curving test

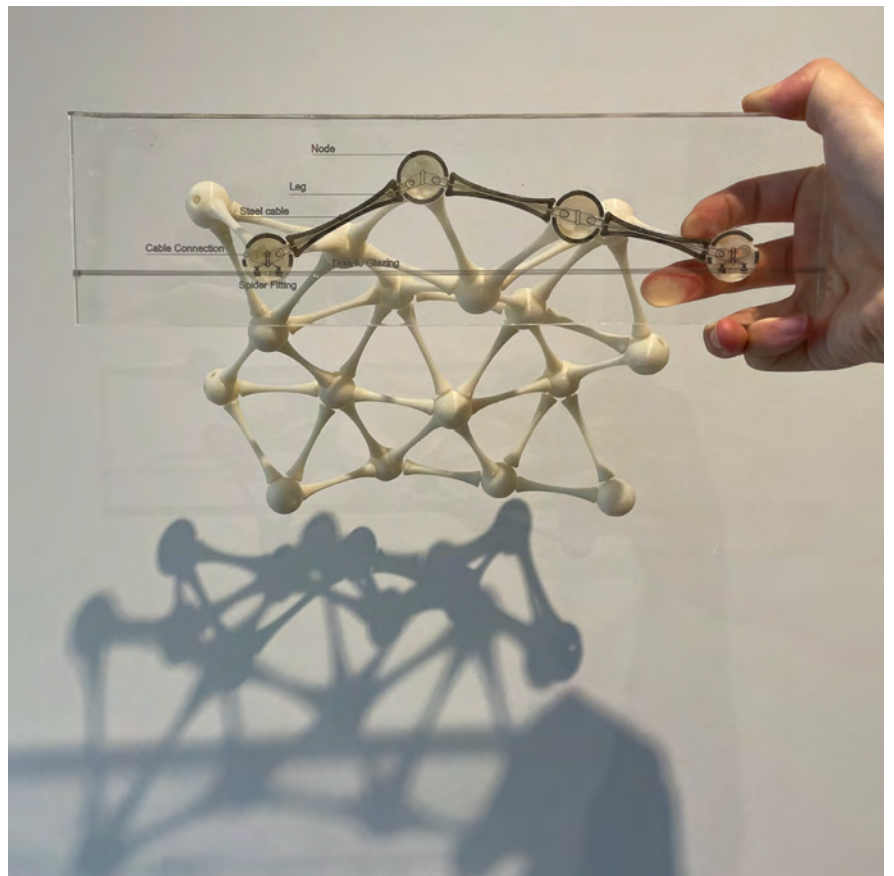


Image 06: Envelop Prototype - Laser engraving, 3D Printing

Marwa Dulaimi & Sally Ho, On Campus

March Year 1 - Atelier: Praxis

Project: Feminist Academy of Crafts, Architecture and Design (FACADe)

1:1 Wa pan wall and Bench

FACADe relies on a cohesive-unit relationship between the architecture students, art students, craftspeople (who support the school as technicians, invited tutors and external partners) and the academic faculty. The Academy is materialised through the use of native timber, Manchester red clay, recycled brick and other regional, sustainable materials. The use of these materials in the building fabric allow for the inclusion of local craftspeople and builders from the conceptualisation, to the realisation and materialisation all the way to the everyday use and occupation of the school.

Deliverables for this project included a reuse strategy and a feminist detail modelled at 1:1 scale. Our model aims to display not only the technique of brick laying, but also the type of threshold we wished to implement, as well as how built-in furniture may interact with the wall. Wa pan is a Zhejiang Province's (Chinese) technique which utilises recycled brick and roofing tiles, including those discarded from renovating the Pankhurst Centre, as well as bee bricks, an intrinsically sustainable and eco-friendly methodology which becomes a stereotomic tapestry of the site's ongoing story. Using this technique allowed us to create softer thresholds through the ability to visually and audibly interact between users in sheltered areas and unsheltered areas, thus maintaining a level of security. The built-in furniture includes seating as well as tables.

The process started with sketches, then sketch-models with basswood and masking tape. Next, we modelled it in Rhino, where we got the measurements for the frame which directly interfaces with the bricks. The timber components were created through a mix of CAM and hand-made techniques; they were either glued and/or screwed together. The bench structure went through several iterations to balance the cost-efficiency and weight of the actualisation of the detail. We also ensured that there was enough structure underneath the frame for the tiles so that it would not tip over backwards due to its weight. The final step of the model was the gluing of the tiles into the frame; we placed wooden spacers between the tiles so that the concentration of the tiles would not be too dense.



Image 01: Overall 1:1 model (front and $\frac{3}{4}$ view)



Image 02: Basswood & masking tape sketch model (process)



Image 03: Seat structure, cut with CAM, assembled in wood workshop (process)



Image 04: $\frac{3}{4}$ view with person walking (for scale)



Image 05: Tile portion close-up



Image 06: $\frac{3}{4}$ view with person sitting

Anya Donnelly

March Year 2 - Atelier: PRAXXIS

Project: The Amelioration of place-making in Sincil Bank

This explores the problems that Sincil Bank has faced through numerous attempts at place-making. The aim was to re-think place-making in the neighbourhood to create long term improvements for the residents and community groups who currently reside there. In a lack of community and outdoor space, smaller groups of people amongst immigrant families and migrant workers found it hard to integrate with one-another and in turn, created friction.

Through the-thinking of the masterplan to creating multiple design interventions in housing, models were created to communicate important ideas that were fit for the modern day families living in Sincil Bank.

The 1:50 sectional model communicates, through section, 3 different house typology permeations. The blue, coral and peach houses. The blue house transitions into an open plan, up-side down house. The coral house on the other side of this, an open space with large bedrooms that can be grown into with a guest/ master suite in the form of a loft box. The peach house (two-sided section) is a co-living house in which migrant workers can temporarily stay and socialise over their 6 months of working. During the other 6 months, the house can be used for workshops and storage for the community groups in the neighbourhood. All houses have private outdoor space that looks out onto a shared courtyard. The courtyard is micro-managed by residents in order to empower them and raise aspirations to take care of where they live.

This model is laser cut MDF and acrylic. The painted engraving links back to the drawings in my portfolio. The blue cut lines represent the new parts of the housing whilst the brown is existing.

The second massing model depicts the idea of a house exchange. Similar to council estates, a strong sense of place is created through the opportunity for residents to swap houses as their families grow bigger and smaller.

This model is cut and carved from a timber baton and painted to each typology to create a clearer understanding. The idea is for it to be presented to residents and communicate ideas to them. Made in the workshop.



Image 01: Coral house to Peach house section

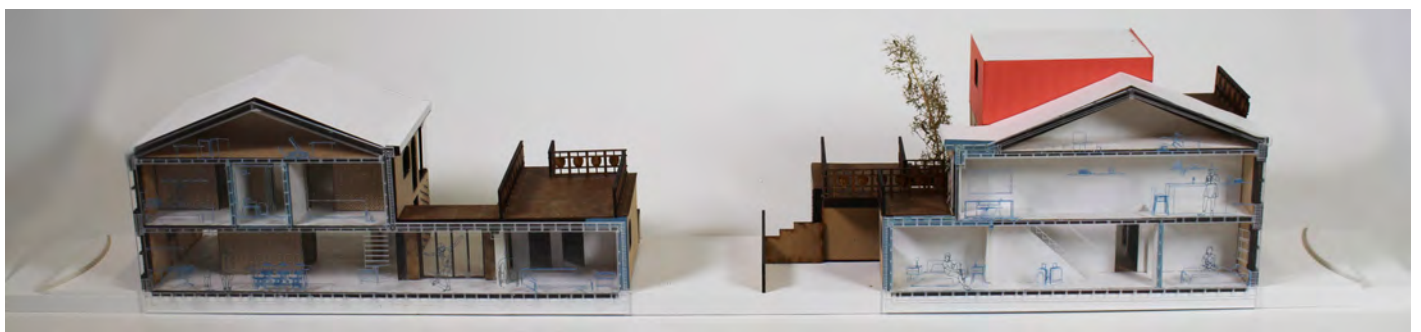


Image 02: Peach house to Blue house section



Image 03: Existing elevation renovated and retro-fitted (Engraved & white washed MDF)



Image 04: Renovated & extended blue and coral houses (laser cut & white washed MDF/ engraved & painted acrylic)



Images 05 & 06: Monopoly-like massing model of housing block depicting the community house exchange.

Elisabeth Frobisher

March Year 6 - Atelier: PRAXXIS

Project: The Chronicles of Buckingham Palace

A feminist christian society take over of Buckingham Palace

We are all equal in the eyes of God: What would a feminist place of worship be like?

Taking inspiration from radical feminism, A feminist religious society is born. Working on the original founding principles of Christianity before it was infiltrated by the patriarchy, this new society is in Buckingham palace because it is linked to the Queen (the current head of the Church of England).

Model making acted as an ideal tool for this project, as it offered a speculative view of what this new Buckingham palace could be, whilst being re-situated within the ecclesiastical context from which this project stemmed.

Recognising that each visitor will view the design from their own unique perspective based on their previous encounters with the Christianity, I created a series of seven pop-up books, which follow three visitors' journeys. Modelled within the chronicles of Narnia, these three journeys are: 'the chronicle of the forgotten women', 'the chronicle of the return of the Windrush generation' and 'the chronicle of the welcoming of the transgender community'. I made the pop-up books from the Chronicles of Narnia because of the religious symbolism used throughout the series.

Prior to creating the model, I tested the scenes multiple times using scrap paper. These tests gave me the templates for the nets. From here I added extra details to the nets using hand and CAD drawing methods. These were then printed onto textured paper that emulated the paper used in the books, from which the nets were laser cut (on campus).

Once modelled, I returned to the church where my project had originally stemmed from (St. Peter's Elworth). I felt that it was important to highlight that the project had been about giving a voice to those who are often overlooked in the church. It had stemmed from a series of interviews with members of St. Peter's Elworth. It was designed through multiple participatory methods with members and non-members of the Church of England. Therefore, I felt that it was appropriate and symbolic to return to St. Peter's Elworth, to show what a feminist place of worship would be.



Image 01 (above): The Voting Hall - Hand and CAD drawing on laser cut paper with post photographed CAD drawing.



Image 02 (left): The Nail Bar - Hand and CAD drawing on laser cut paper with post photographed hand drawing.

Image 03 (right): The Nail Bar - Hand and CAD drawing on laser cut paper.



Image 04 (left): The Nail Bar - Hand and CAD drawing on laser cut paper with printed acetate.

Image 05 (right): The Nail Bar - Hand and CAD drawing on laser cut paper with printed acetate and post photographed CAD drawing.



Image 06 (below): Pop-up books on base plan - Pop-up books placed on mountboard base textured in old book pages.



Irina Munteanu

March Year 2 - Atelier: PRAXXIS

Project: Rethinking Bucharest's Lost Mahala

Responding to a disruption in reality with a dipole to the existing city

This project's narrative is rooted in Romania's communist legacies scrutinised in an extensive body of work in my dissertation research which focused on critiquing the demiurgic work of Nicolae Ceauşescu as the head of Romania's Communist Party ruler and the country's last dictator.

My project focuses on addressing leftover communist brownfield sites by applying a clear manifesto of principles as foundation for collective intervention. My proposals derive from an experimental design methodology in which I have unpacked my project's main actors as agents for change, have extracted principles and generated a programme in order to postulate specific actions and have spatialised the resulted opportunities while proposing archetypes for types of change.

These proposed archetypes carry a meaning which can be tested and delivered to members of the community by the use of feminist design tools such as paper modelling techniques through clear instructions. On this account, exploring citizen participation throughout my project would offer a healing type of intervention and prove determinative in restoring a national identity unite Romanians toward achieving change. For this reason, my final portfolio was configured as a handbook, similar to a step-by-step recipe towards contributing to collective change with scaled paper nets of my proposed archetypes for the community to print, cut, assemble and configure their own future and any new *mahala* (neighbourhood) intervention.

My series of paper models represent my final proposal's submission but also the end-product handed to the *imagined* members of the community I am addressing to as an example, hence why the need to make use of the workshop facilities to polish my cutting process. In order to make 1:100 scale paper models I had to design analogue 2d paper nets for which I have employed descriptive geometry techniques in order to calculate the exact folding of the targeted 3d shapes. From a technical point of view, I have used two types of paper: 250gsm white cartridge and 300gsm watercolour paper. I have intended to accentuate through texture and colour certain features in my models and so watercolour paper proved optimal to work with as it quickly released moisture after painting, maintaining its stiffness and flat properties. I have made use of the workshop facilities such as the laser cutting machine for cutting the nets and have continued to assemble the components at home by the help of tweezers, scalpels, pva glue and slow and careful movements.



Image 01: Personal Configuration With All Of The Archetypes Models - Watercolour, Cartridge & Tracing Paper



Image 02: Autonomy Through Play Archetype- Watercolour & Cartridge Paper



Image 03: The Broadcasting Tower - Autonomy through revolutionising politics Archetype- Watercolour & Cartridge Paper



Image 04: The Watch Tower - Autonomy through communal welfare Archetype- Watercolour & Cartridge Paper



Image 05: The Markets - Autonomy through financial security Archetype- Watercolour, Cartridge & Tracing Paper



Image 06: The Great Ovens - Autonomy through socio-cultural crafts Archetype- Watercolour, Cartridge Paper

Millie Evans, B15 Workshop / At Home

March Year 6 - Atelier: PRAXXIS

Project: The Waste Mill

Overturing Overconsumption of The Fast Fashion Industry

The Waste Mill (2061) is a speculation based on emerging research into science that converts household waste into new fibres using enzyme technology. This new way of manufacturing textiles for the fashion industry not only eliminates the need for virgin materials to be harvested, but also tackles the issue of general household overconsumption. Local community members and businesses become the supply for the mill by donating their waste in return for receiving training and workshops at the mill.

I decided to use model making as it is an accessible communication tool which allows the vision of a project to be relayed to those who may not understand architectural drawings. They can be particularly helpful when engaging the community within a project.

The section model is 1:100 scale as I wanted to slice along the whole length of the building but it also needed to be a big enough scale for the detail of the machines to be visible. The section cuts through many important aspects of the building, including the ground floor main entrance and exhibition space, textile gallery, main factory spaces on the first floor and roof access. Locating the section in this place also shows the difference between the existing structures on the site and the new construction (as it is a re-use project).

Material choices were strategic to distinguish different aspects whilst also keeping the palette fairly minimal for a clean finish. The base and structural frame were made using MDF, the existing walls were cast in jesmonite to portray the permanence and age. I cladded the main frame in recycled paper and then also created the machinery out of recycled paper by drawing up nets of each component. As the main focus is the manufacturing process, I have used bright red paper to make this stand out.

I made most of the model in the workshop in order to do the casting and construct the MDF frame using the laser cutter, but also assembled the paper machinery at home. I also used the model to create a stop motion video showing the building in use: <https://www.youtube.com/watch?v=z3bHEGd6H1Y>



Image 01: Process Photo - MDF curved frame structure, existing jesmonite walls

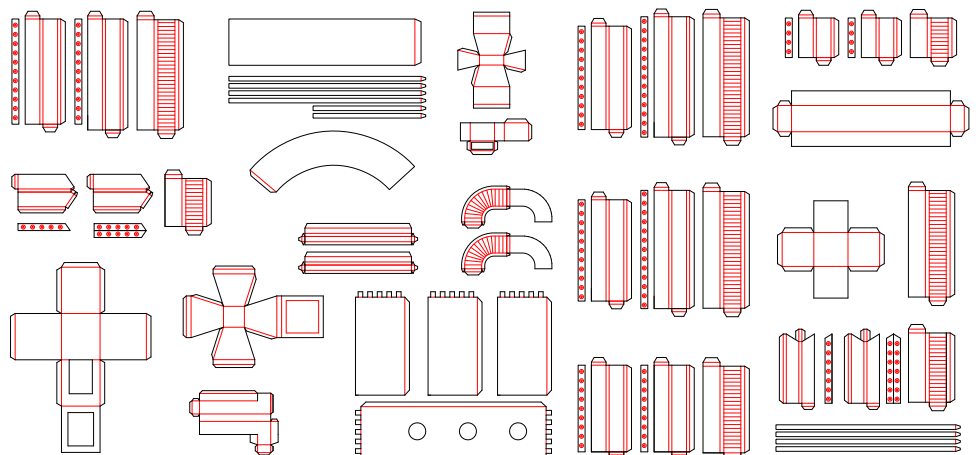


Image 02: Net drawings prepared to create machinery components

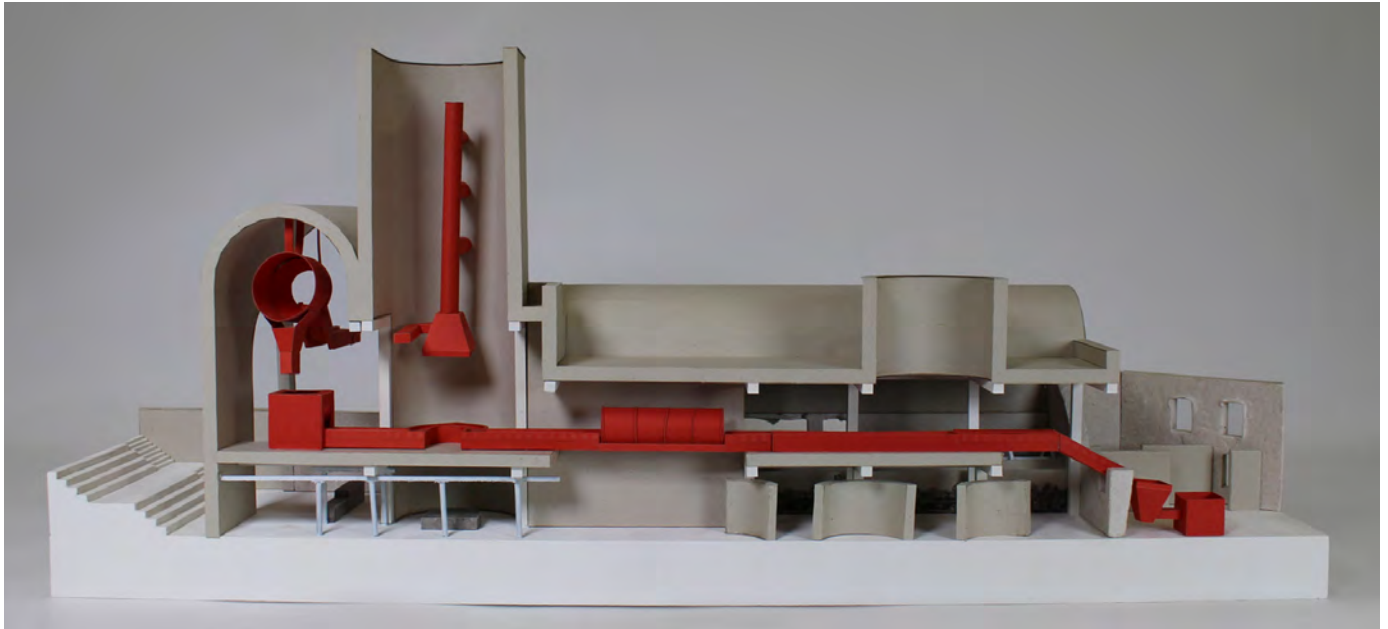


Image 04: Final section model cutting through entrance steps/seats, ground floor entrance and exhibition space, first floor factory (710mm x 150mm)



Image 04: Back of final section model, highlighting existing (jesmonite) vs new structure (recycled paper)

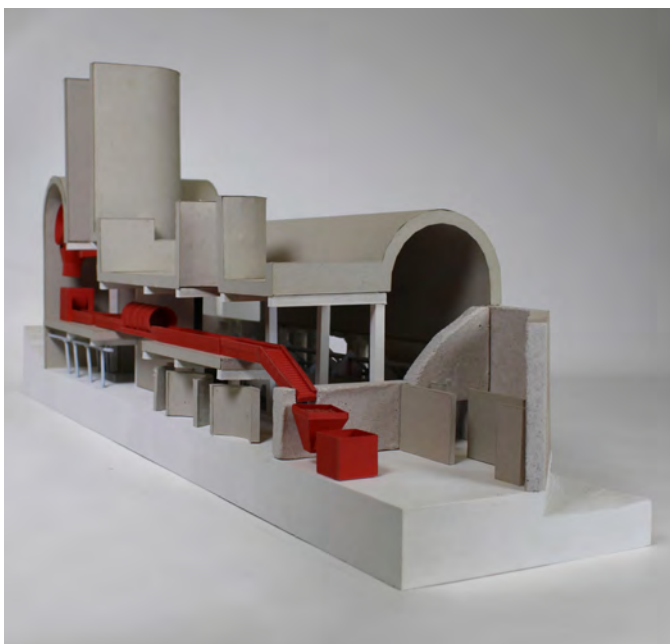


Image 05: Final section model (710mm x 150mm)

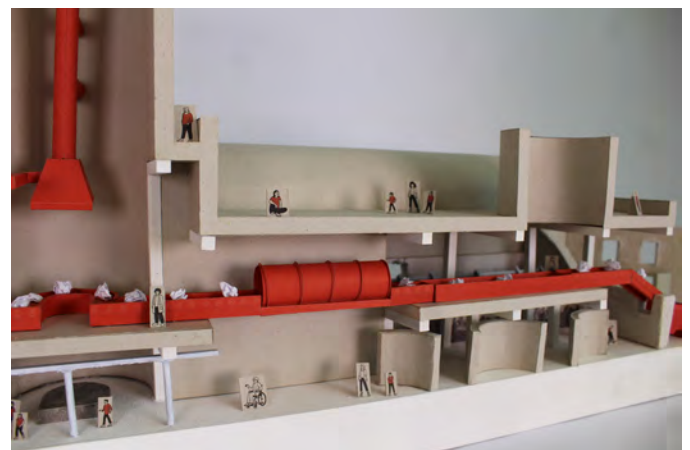


Image 06: Populated section with workers and visitors as used in the stop motion video

Premdyl Singh Shadan

March Year 6 - Atelier: PRAXXIS

Project: Ethir - Counteract

Reclaiming the forgotten Indian Identity

"Ethir" is an inclusive feminist urban architectural intervention in response to the increased discrimination faced by the South Indian community in Malaysia. The proposal integrates the historical arrival point of Indians located in George Town, the refunctioning of dissected pieces of 'power' and the current needs of the Indian community, by celebrating Indian traditions, culture and lifestyle with freedom of speech through Indian-fication; a fantastical exposition with bold infrastructural and cultural undertones.

Model making was essential as a tool to expose the different layers of architectural intervention. The 1:500 massing model which appears bright from the red acrylic yet light from the appearance of a transparent base highlights the different scales and purposes of several feminist technologies implemented to Ethir. These themes reflect the concept of Indian-fication, a word I use to explain Indian curated strategies to a building, site or programme and is echoed with the model's usage of transparent red acrylic.

To emote the effects of Anthropocene Feminism, where Ethir is manipulated and intervened within the current conditions of the sea, transparent acrylic is used to exhibit the drastic change of footprint during the high tide. The transparent acrylic was a complex material to work with, as its qualities were able to highlight the stepped level floor plate derived from Mughal Water Gardens below and the floating pier (in solid red) on top, giving the same impression as it would in real life. This gave the model a multi-layered visual that was difficult to encapsulate through digital renders.

The testing of various extensions allowed me to achieve the desired effect of the Axis, a bridge of reflection that pays homage to the East-West orientation. To keep consistent yet stand out, black acrylic was used to express the voids and solids within the Axis itself. The process of making the Axis compelled me to consider the site surroundings and understand how it would slice around existing buildings, an impossible observation through drawings alone.



Image 01: Overall View of Ethir's Model demonstrating the relationships between the site, circulation and the Axis.



Image 02: Used to explain key points within the journey; from the start on the cliff to ending on the floating pier at sea.

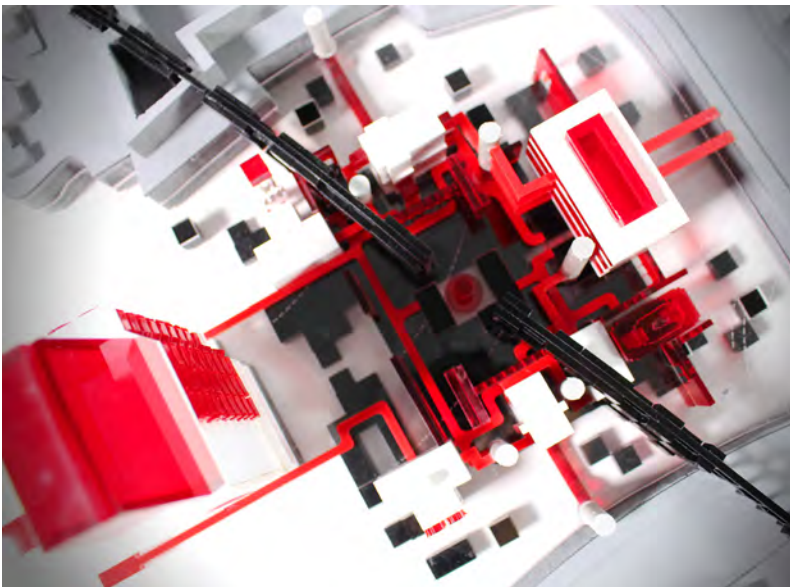


Image 03: The Brahma- a sacred zone within the core of Ethir that has all elements meeting as one.



Image 05: The Experiment- using cardboard to get the right heights and widths before laser-cut.

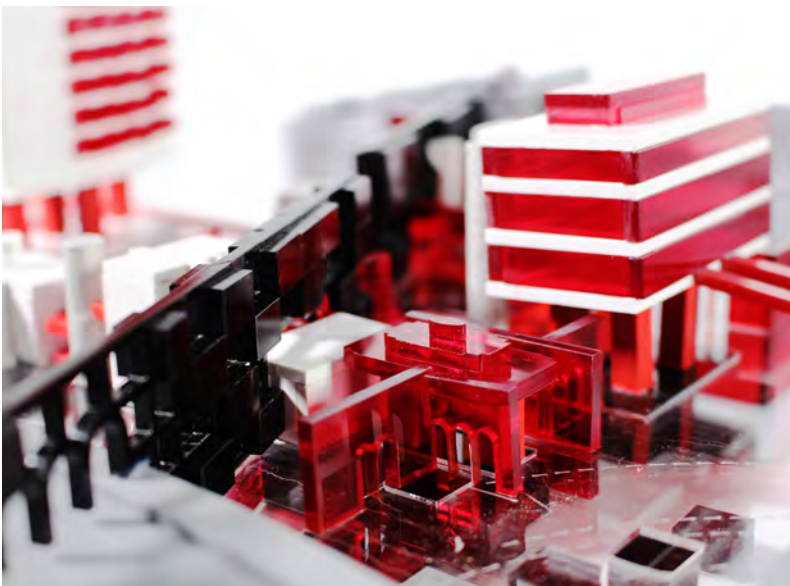


Image 04: The Details- the exploration of different types of Indian-fiction through arches, shrines and glazing.

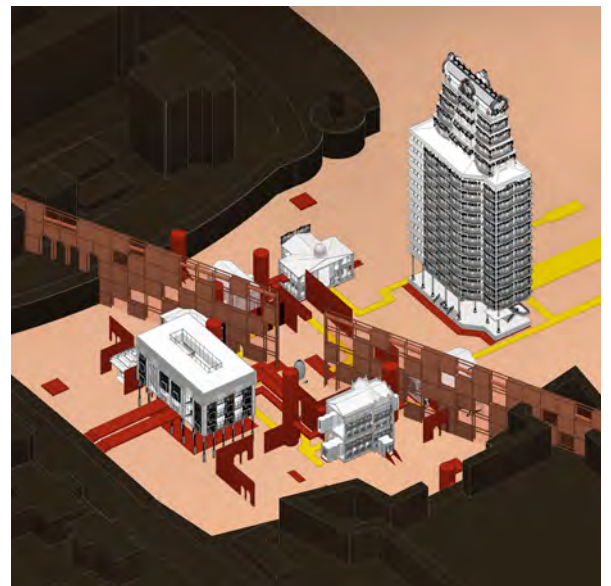


Image 06: The Concept- model-making demonstrated complexity that digital could not.

Wiktoria Nowak , B15 Workshop

Ba / March Year x - Atelier: PRAXXIS

Project: Empowering Forgotten People and Places Through Protest

How can the rebellion against media and its wider politics be used to empower forgotten people and places?

Throughout the project, I wanted to give forgotten people who wanted to uproar against current media norms, a space in which they could prepare their protest and connect with other activists. Since the project protest against power, I looked for the least powerful places, hence through feminist approach I decided to use a space which was either abandoned, destroyed, buried or razed. By reclaiming that space, I could empower it and by then returning it to the people, it would act as a tool to empower them. My site became Pomona Palace on Pomona Island which once was a very powerful building but had been destroyed by an explosion and now is razed to the ground. I unpicked the original building and brought it back to life through its negative spaces, which had given a form to the invisible activity that would've taken place inside the Palace and given it back to the people. Exposing that activity, through giving it a form, gave the project a vulnerability as the powerful shell was metaphorically peeled back and what was left was the internal form that was never there and now was exposed. Casting the negative forms at 1:50 scales, reincarnate Pomona Palace as a new vulnerable space. My model making, allowed me to develop a process where this approach could be used with different abandoned buildings which could also be reincarnated and returned to other protest groups. I developed papercrete which became a material that could be used to make your own bricks using paper or be used to patch up broken bricks in existing, destroyed buildings. Having this material I developed my approach even more and created a guide to show how step by step protest groups, by dissecting a space, and casting its negative spaces or repatching an abandoned building and building into the interior, could build their own hubs and have their own spaces to plan the protest against media and connect with other to correct any disinformation and boycott the current media norms and their wider politics. Making models guided the whole project, through to the end.

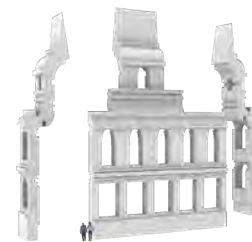


Image 01, 02, 03: Unpicked fragments of the original Pomona Palace



Image 04, 05, 06, 07, 08, 09: Negative casts of the unpicked fragments of Pomona Palace at 1:50

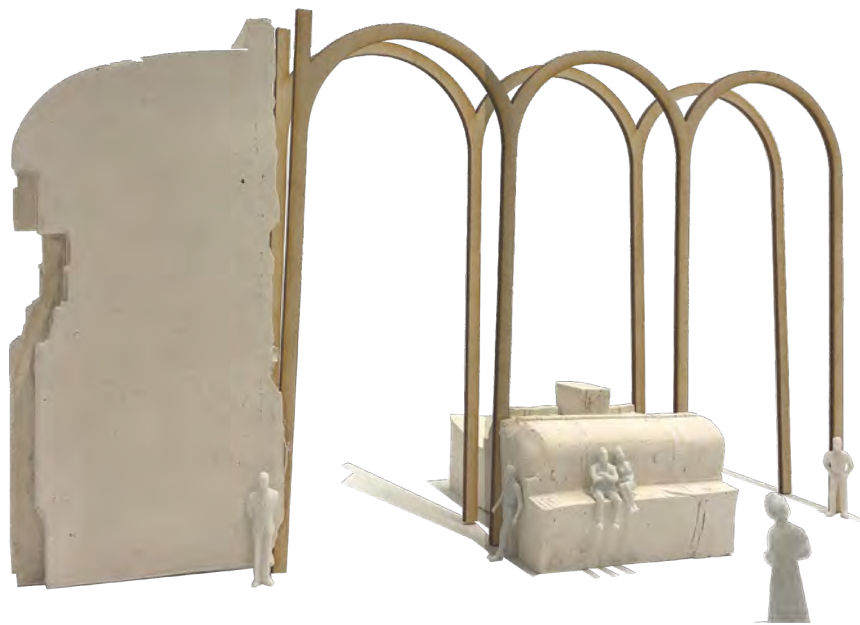


Image 10: 1:50 A development model showing people occupying the new negative forms



Image 11: 1:1 Models of papercrete bricks which were used using recycled newspapers which would become a tool to rebuild the new spaces for protestors



Image 12: 1:50 process model showing the collaborative process of rebuilding an abandoned building using the papercrete.

Daryl Law & Jin Lee, Manchester

March Year 2 - Atelier: Some Kind of Nature

Project: Some Measure of Re-leaf

How green roofs, algal canopies and mossy berms could absorb runoffs and filter pollutants induced by the speculative Stockport A6-M60 Bypass

Our thesis involves a counter-project to Stockport Council's plan to build the A6-M60 Bypass through Stockport's green belt, which threatens its importance for Stockport's biodiversity and natural flood control. The counter project embraces the growth of microbes not only as the basis of resilient design but as the building blocks of Stockport's ecosystem.

Through the use of found natural objects, we repeatedly tested the juxtaposition between the microbial and the human/urban scales to represent and investigate their interdependence. Lichens shrink in polluted air; mosses languish without the right pH conditions; the branches warps and cracks as its moisture fluctuates, and even worms and bugs continued to call them home - we learnt to embrace the beauty that comes from the messiness and unpredictability of these natural elements. This shaped our notions of the "site" as a living entity, and of the decentring of humans in designing a built environment that is everchanging.

Modelmaking with reclaimed materials was our scaled down exercise of low-embodied-carbon design, especially in the use of reclaimed timber over MDF and balsa. Our cultivation of mosses and algae demonstrate the possibility of multispecies cohabitation at the building- and neighborhood-scale that is low-tech and low-maintenance so as to minimize operational carbon.



Image 01 : A Research Log - S1 site model The long branch's natural curves and cover of mosses and lichens evoke the contours and ecology of Stockport both at the urban scale and the microbial scale. Lichen-like petals are derived from fractal geometry algorithms built into CAD programs for modelling terrain. The counter-masterplan forms a new vegetal layer over this hybrid landscape: for instance, the finely folded embankments indicate alternative landscaping strategies to absorb runoffs and pollutants.



Image 02 : Some Measure of Re-leaf - S2 site model The decaying branch represents a transect of Bredbury's ancient woodland that could be destroyed by the construction of the bypass' tunnel section. Our counter-project is a sequence of structures that could heal this scarred site: moss roofs to absorb rainwater are integrated to existing roof trusses; canopies that intercept the tunnel vent shafts host algae that filter polluted air from the tunnels.



Image 03 : Moss roof house retrofit The moss roofs are the basis for flood-resilient, low-carbon house retrofits. Oak heartwood integrated to the roof trusses is a creative way to reclaim trees felled in the wake of the tunnel construction. The roof includes metal nettings that double as electrodes for a biophotovoltaics system, and a substrate (charcoal, sphagnum moss, sand, soil) suitable for mosses to thrive.

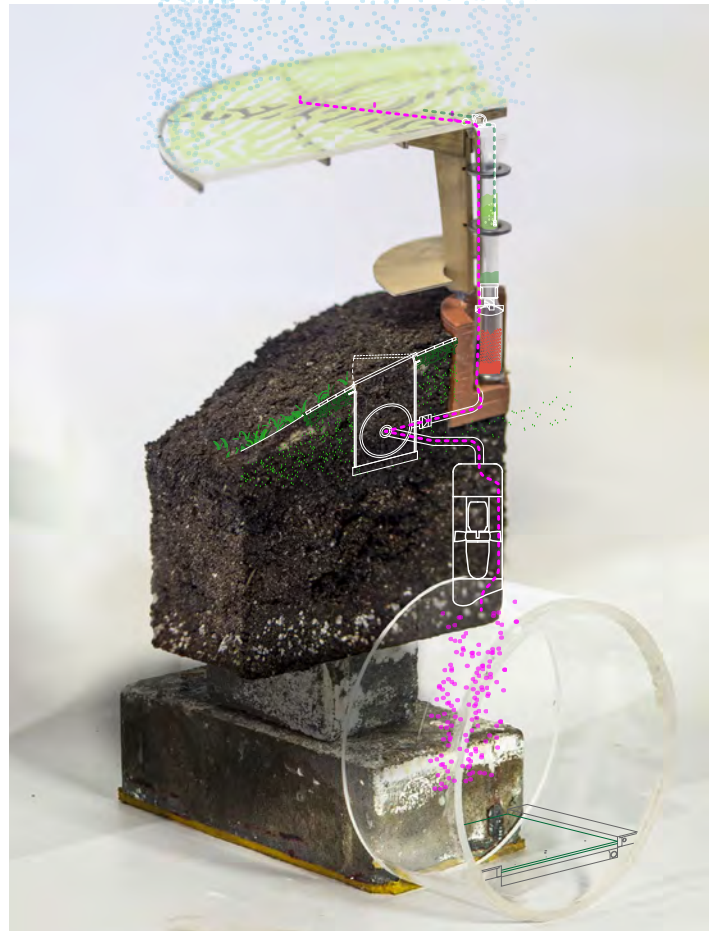


Image 05: Algal canopy The canopy uses parametrically generated self-filling curves to maximize sun exposure for the algae. The dyed Jesmonite cast base represents reclaimed brick from the house retrofits. The base is in turn embedded in a berm (made by adopting the rammed earth technique) built atop the infill earth over the tunnels. A series of these canopies and berms could not only help attenuate surface flooding but also create a playful environment.



Image 04 : Live mosses The new flood-resilient interior - comprising drainage barriers, closed cell insulation and plywood cladding - allows the existing brick superstructure to be home to free-growing microbes.

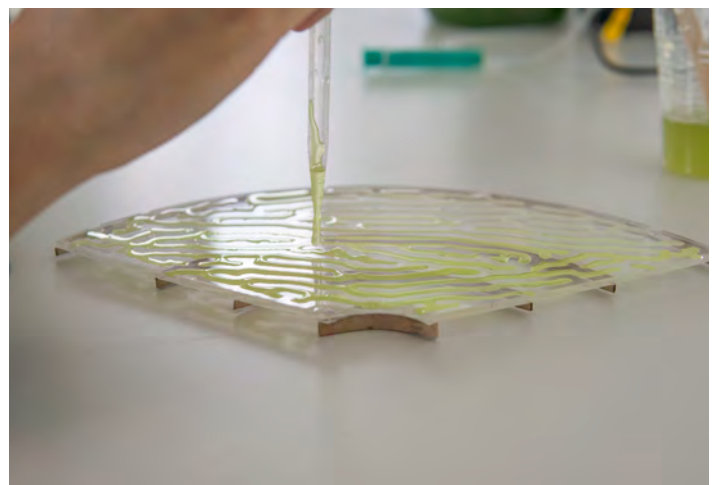


Image 06: Live algae Our algae extract, when incorporated into a sodium alginate hydrogel, simulate the visual effect of the channels/tubes filled with algae culture, which could also lend the canopy some form of sunshading.

Catherine Westhead, Evie Boyce, Manchester

March Year 6, MLA Year 2 - Atelier: Some Kind of Nature

Project: Bee Resilient

Animal Aided Design to Support Wild Bees in Stockport

As a cross-disciplinary Architecture / Landscape Architecture project pair, our studio project "Bee Resilient" explores the ways in which Animal Aided Design as a methodology can be adapted to support the entanglement of wild bees as essential pollinators with humans to enhance environmental resilience in Stockport. The design of Weir Mill and the surrounding landscape affords multifaceted human-nature interactions across the site. In addition to supporting biodiversity from the start, we aim to enhance climate resilience through our sensitive design approaches, including creating a carbon-positive design outcome combined across the landscape and buildings.

We produced this final presentation model as a method of physically blending the threshold between architecture and landscape architecture as a representation of our collaboration. The concept behind the model is to represent the different scales of design, starting from the 1:500 full site base model including the context of the railway viaduct and the river Mersey, showing how the building and landscape designs interact and complement each other. The smaller details of the site from scales ranging from 1:300 to 1:20 are pulled out from the base model onto raised platforms, featuring key designed elements of value to bees. These are also pedagogical features for humans to experience and learn about wild bees. The challenge throughout this project has been to represent the small scale of the bees, so using the exploded technique for this model has allowed us to represent both the large-scale site and the small-scale user in one.

We chose to use a minimal range of materials, using offcuts and low-impact materials where possible as an environmental consideration. Placed on a timber offcut base, the site topography is made from layers of greyboard, covered in modelling paste for a unique yet subtle natural texture to the landscape. The built elements which we created at home ready for assembly in the workshop are made from card spraypainted to a terracotta colour and terracotta clay forms, with circulating wire bees. The simple colour palette of the model highlights the red brick materiality which characterises the existing site and our designed features.



Image 01: Final presentation model at 1:500 with small scale models featuring detailed site elements from 1:300 to 1:20



Image 02: Built features made from spray painted card with balsa wood and clay details amongst sea foam vegetation



Image 03: View featuring the river Mersey edge of the model



Image 04: Detailed elements hand built from terracotta clay



Image 05: View of landscape design on the east side



Image 06: Walkway features below the viaduct

Patrick Cooper

MLA Year 2 Atelier: LA2C

Project: EMBER

Duddon Furnace & Wildlands

The restoration of the scheduled monument Duddon Bridge Ironworks on the banks of the River Duddon in the Lake District National Park, England. An experimental landscape activated by three initiating objectives; **re-energise**, **restore** and **rewild**. Geothermal and hydroelectric power plants re-energise the local economy fuelled by productive grow houses and releasing surrounding grazing land for rewilding and woodland restoration. This new energy economy instigates the restoration and redevelopment of the Duddon Bridge Ironworks into a new National Renewable Energy Centre, offering training and education to its visitors, and opportunities to experience a wilder way of living. At the heart of the site sits **EMBER**, this prototype invites you to experience an imagined landscape influenced by the industrial processes of the site's past and its journey from a post-industrial landscape to a modern nature-based habitat.

EMBER is inspired by several curiosities that were discovered during a survey of Duddon Bridge Ironworks. At the centre of the site is the Duddon Iron Furnace, the oldest surviving example of a charcoal-fuelled iron blast furnace in the UK. Materials such as charcoal, iron and the processes such as heating, decay and energy influence the form of the model. The woodlands and moorlands surrounding EMBER were habitats for Neolithic people and stone circles, standing stones and agricultural structures are monuments of their communities. EMBER is also inspired by nature; a beech nut taken from the surrounding ancient woodland, and rare wood ants that form important communities and heat their nests using energy from the sun and the earth. Heritage, energy production, and natural restoration of habitats and communities are all presented by this model.

The materials used for the modelling of EMBER include charcoal and aluminium coated Jesmonite that consider industrial materiality, and white plaster to signify a new beginning and hope. Engraved Perspex offers a lens through which to view the restored woodland and vegetation, and layered wood depicts the site's complex palimpsest, all conjuring an image of the site's future. EMBER is HOPE: <https://www.youtube.com/watch?v=5R6vRv1imHQ>

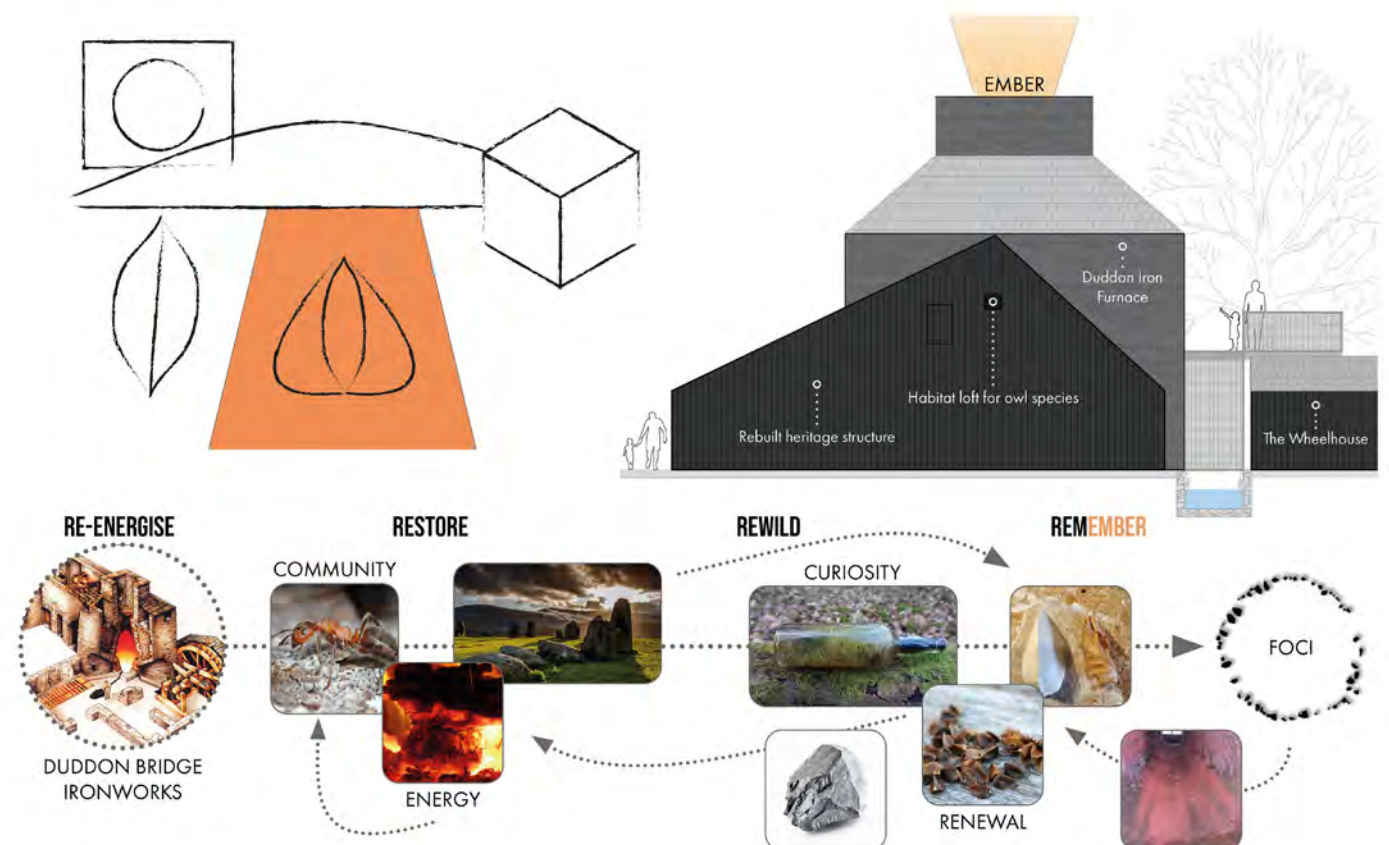


Image 01: Design influences & Duddon Iron Furnace's north-east elevation



Image 02: Duplicate castings of EMBER in plaster, charcoal & polished aluminium coated Jesmonite



Image 03: Signifying the ironworks of an industrial past



Image 04: Modelling of future vegetation restoration



Image 05: EMBER glows