

mecanoo b.15 modelmaking award 2016

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BA (Hons) Architecture Shortlisted Projects

To be presented to 3 final year students for outstanding use of modelmaking at both Part One and Two level. Judging will focus on process, purpose and finished quality of models within design and presentation stages

Awards will be presented by Mecanoo at the MSA show opening on Friday June 10th



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Gregory Kokkotis

Atelier: Coexistence in Theory

The project envisions a structure which doesn't stay still in time, but rather changes through a timeline, gradually destroying the existing church. On the inside, the user is called to walk through a sequence of different spaces, each designed to provoke a specific emotion. After walking through rooms with antithetical emotional qualities the user is faced with a crucial dilemma: "to destroy" or "to be destroyed". According to the reaction that the visitor has inside the rooms of emotions he is unconsciously directed to a cemetery or to a sheltered glazed platform. The cemetery is a closed and dark underground space, whereas the glazed platform is an elevated shelter offering a clear view to the exploding church. The building and the user are vitally related in an emotionally intense walkthrough where eventually, one of the two must be destroyed.

In order to direct this destruction sequence, a conventional steel frame was designed in a 3D software environment and transformed. In order to design the chore of a destroyed structure. A series of different software commands was used to produce the final images of the destroyed building. Translating this transformable and complex design into a physical model was a hard task which involved the careful arrangement of 3D printed parts and acrylic components to give the impression of a proper explosion.



Akhil Mathew

Atelier: Coexistence in Theory

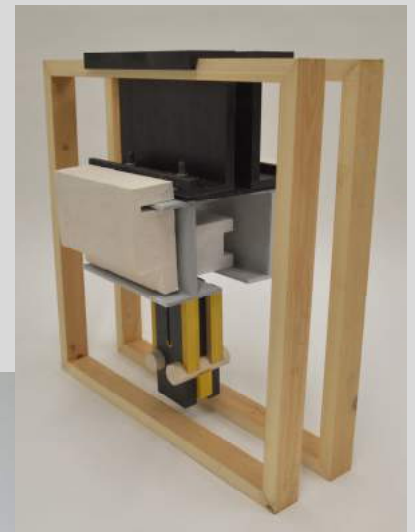
Coexistence in Theory investigates the possibility of transforming existing perceived 'non-places' to 'places' through the application and understanding of architectural theory. The studio design project is an amalgamation of a series of unrelated assignments (based on theory) that later come together to create the building design within an existing building. My project is situated in the NCP Carpark/Chorlton Street Coach Station on Chorlton Street. The project was to be designed preserving the existing structure of the carpark.

My approach to understanding and communicating ideas has always been to deconstruct a complicated system to its fundamental components and understand how these come together. I also use this process in my model-making tasks as an effective method of communicating key elements of the design project. I've always made use of a number of different methods to produce a model (laser-cutting, 3D printing, model-making etc.) often using a number of different materials.

I've recreated my design project (or specific parts of the building) at a number of different scales. The connection detail at 1:2 for instance, is a perfect example of a number of separate fundamental elements that come together to form the final model.

The building model at 1:200 was built to communicate large scale aspects of the building such as the relationship it shares with the existing structural framework, the different façade systems, towers and the main central brass-clad theatre space.

Finally, the 1:50 sectional model communicates the interaction of different spaces and floors. The structural system can be understood by observing the ceilings, façade systems were designed keeping the actual building details in mind, the existing building elements were cast in a separate material and the theatre was laser-engraved and added as the main contrasting element. Other elements like the engraved detail section and entrance model were then added to further communicate the individual interactions between building elements and to give the observer a sense of the point of entry respectively.



Daniel Vella

Atelier: Continuity in Architecture

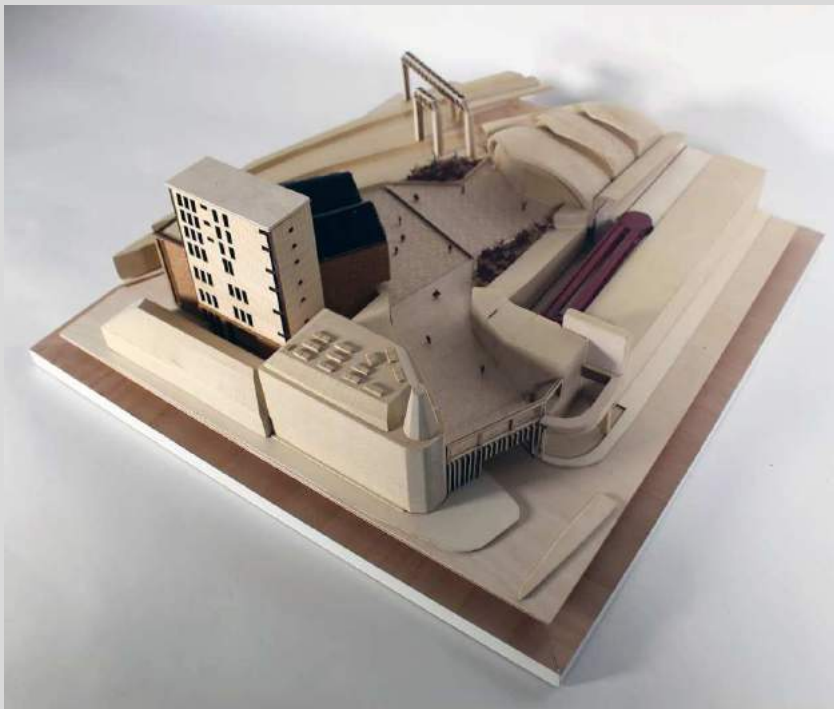
Considering the city as an 'artefact', we were asked to propose a new 'Welcome Mat' for Oxford Road Station, remaining harmonious with the site's industrial history. The physical impression of my building with its vernacular form and materiality, together with its programme as an Apprenticeship Centre for Railway Engineering, reflects the industrial past of Little Ireland.

Through modelling the proposal/context at 1:200 and a building section at 1:50, I was able to investigate the spatial qualities of my proposals gaining a better understanding of the relationship between the building, the activity, the envelope and the city.

A 'snow-globe' concept-model of my building proposal is placed on my 1:200 site model. Using acrylic to model the building envelope enables the client/spectator to understand, without the use of drawings, the two key elements in my building – the free-standing pods inspired by industrial water-tanks and the brick arches reminiscent of railway architecture. Jelutong's robustness, lightness, and ability to easily sand made it an appropriate choice when modelling the 1:200 site and the many curves that characterize Oxford Road Station, complimented by red and cork shrubbery.

The 1:50 model, constructed with ply, acrylic and grey board provided me with a visual aid to comprehend the construction/structure of my building, portraying the raw and industrial finishes which are critical to my 'industrial' scheme. Grey board accurately resembles reinforced concrete, engraved plywood resembles brickwork and corrugated card resembles the corrugated sheet-metal roof.

Continuity between my models is achieved through the steamed beech base of both models, red figures and spray painted red steelwork in my 1:50 beams and 1:200 moving piece. My minimal material palette further enhances this.



Claire Greenland

Atelier: Continuity in Architecture

Continuity teaches that the power of architecture extends much further than the dimensions of the individual buildings. With this perspective at the heart of the project I commenced work on designing not just a public building but also an adjustment to the landscape, aiming to create an external public space. The result is the 'Perfume Athenaenum'.

The construction of a 'collective' and 'coherent' group of carefully scaled models was one of the most important aspects of the project and allowed me to visualise my scheme with a depth of representational knowledge.

At the smallest scale my 1:500 massing model represents the shape of the Perfume Athenaenum in relation to the surrounding context. Copper flakes set in a transparent resin allowed me to visualise the use of the Corten cladding; an external acknowledgement of the copper 'still' within the lungs of the perfumery. This model became not just a massing representation but also a programmatic one.

Enlarging the scale I explored the finer detail of the building and used this to achieve realistic proportions for the final design. The 1:200 model showcases the building as a whole; incorporating removable sections helps to create a relationship between the model and the viewer and allows you to delve deeper into the scheme and the building.

Taking a section through my building at a point where materials join and the circulation moves from outside to inside, my 1:50 facade model exhibits finer detail with the use of materials. I aimed to use as many representational materials as possible, even down to the internal insulation and cavity. Here you are able to grasp an idea of how the corten cladding and light steel frame sits gently on top of the brick base.

My final model is the 1:1 detail of the facade ornamentation. This copper laminated model provides the detail of the facade mechanical vents which release the perfume into the atmosphere.



Anton Tkachuk

Atelier: Continuity in Architecture

Located in one of the busiest parts of Manchester, on the public square opposite Oxford road station, the 'Utopian community Estate' is a new paradigm of apartment design, with aims to explore the possibilities of modular units as an approach to create affordable housing. An obvious contrast with the surrounding context is created between the "heaviness" of the concrete, and the brightness of the light that reflects into the interior space through wide openings and carefully considered glazed units. The conservatory of the Estate provides the city of Manchester with an isolated urban "oasis"; necessary to a city with minimal green space.

Modelmaking became an essential part of the building design. The scale used in the Sectional model (1/50) allowed to explore internal and external finishes and construction methods, as well as the relationships between person, activity, envelope and city. A concrete and glass block facade were an integral part of the building, therefore it was essential to represent these qualities of the materials in the model as close as possible. The smooth finish of concrete was replicated by sanding the acrylic sheet until the matt finish is achieved and then laser cutting and engraving the traces of bolts, that held the shuttering in place. Moreover, frosted acrylic with a glass block texture engraved onto it was used to portray the translucent qualities of the conservatory. Lastly, the 1/25 Staircase model, was manufactured in order to show the main transition route for the public. 3d printing was chosen as a construction method, with tread finishes and entourage added to bring life into the model.

To accurately portray the physical qualities of my building, in terms of mass, material and light, was the main design force in the modelling of the 'Utopian Community Estate'.

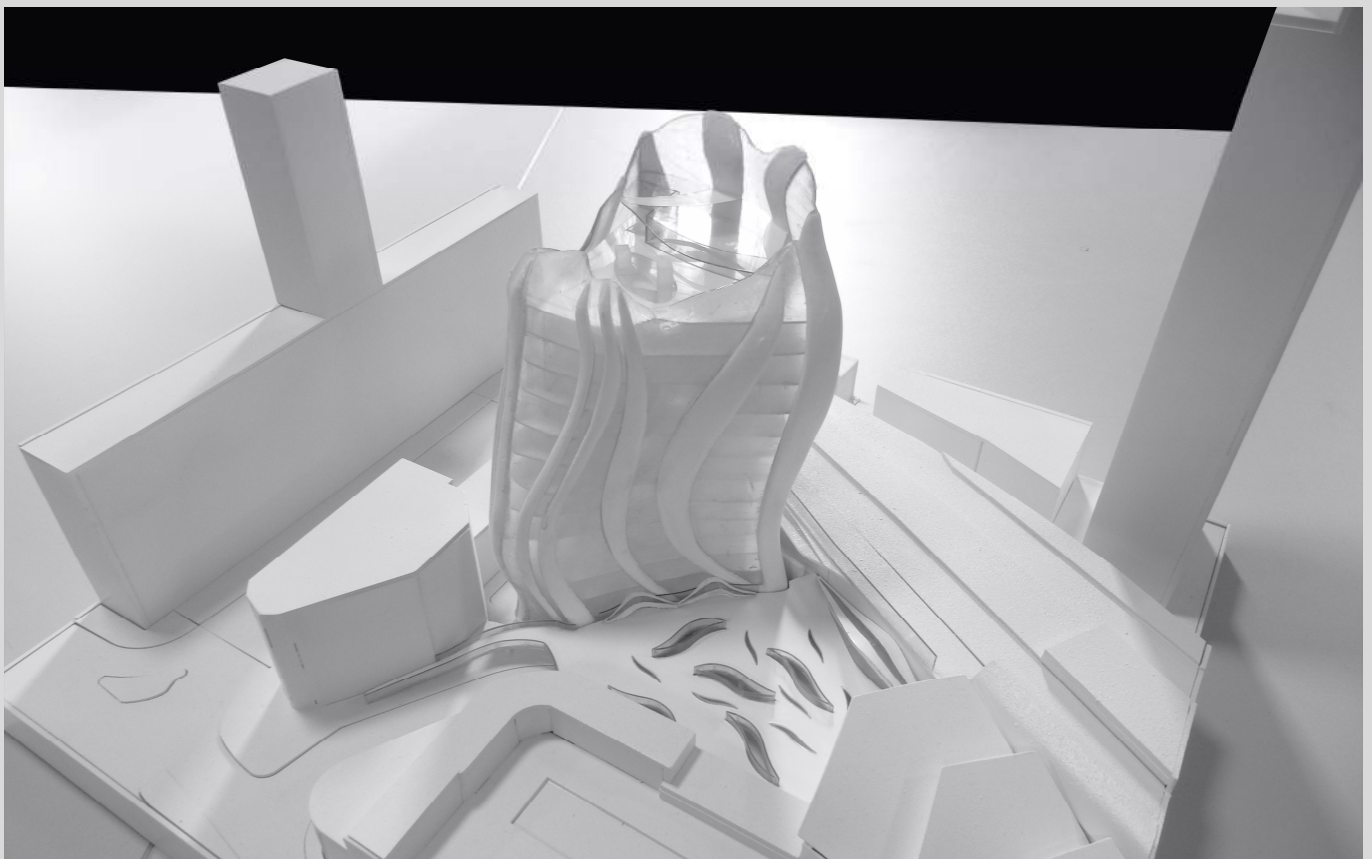


Ivaylo Ivanov

Atelier: Continuity in Architecture

My project brief was to engage with the topography of the site through a series of investigation methods which resulted in developing a bold design preposition for the Oxford Road Station approach - sculpting the land down and creating separate layers of circulation for pedestrians and vehicles in an effort to reinvent the site and make it more attractive for people to interact with. This was followed by a highly considered program development and a proposal for a mixed-use building, an urban intervention which would be an inseparable part of the overall design, aiming to maintain a continuous and uninterrupted relationship with people.

The building's design is a continuation to the proposed design for the square, which was inspired by the outward appearance of the station. The aim was to avoid repetition by seeking architectural reinvention which involves imagining the 'best form'. Therefore, I found it quite useful to transform my two dimensional sketch ideas into three dimensional design proposals by the use of several plasticine clay models, which allowed me to make instant changes and helped me to respond to the challenge of transitivity toward reality. In my final model I had to respond to the 'futuristic' look of my building with the use of materials, which would maintain the same qualities for the surrounding context. The challenge was the building's envelope – the glazing had to be represented by the use of transparent material (SLA 3d Print) in order to show the finished design of the building and its structure.



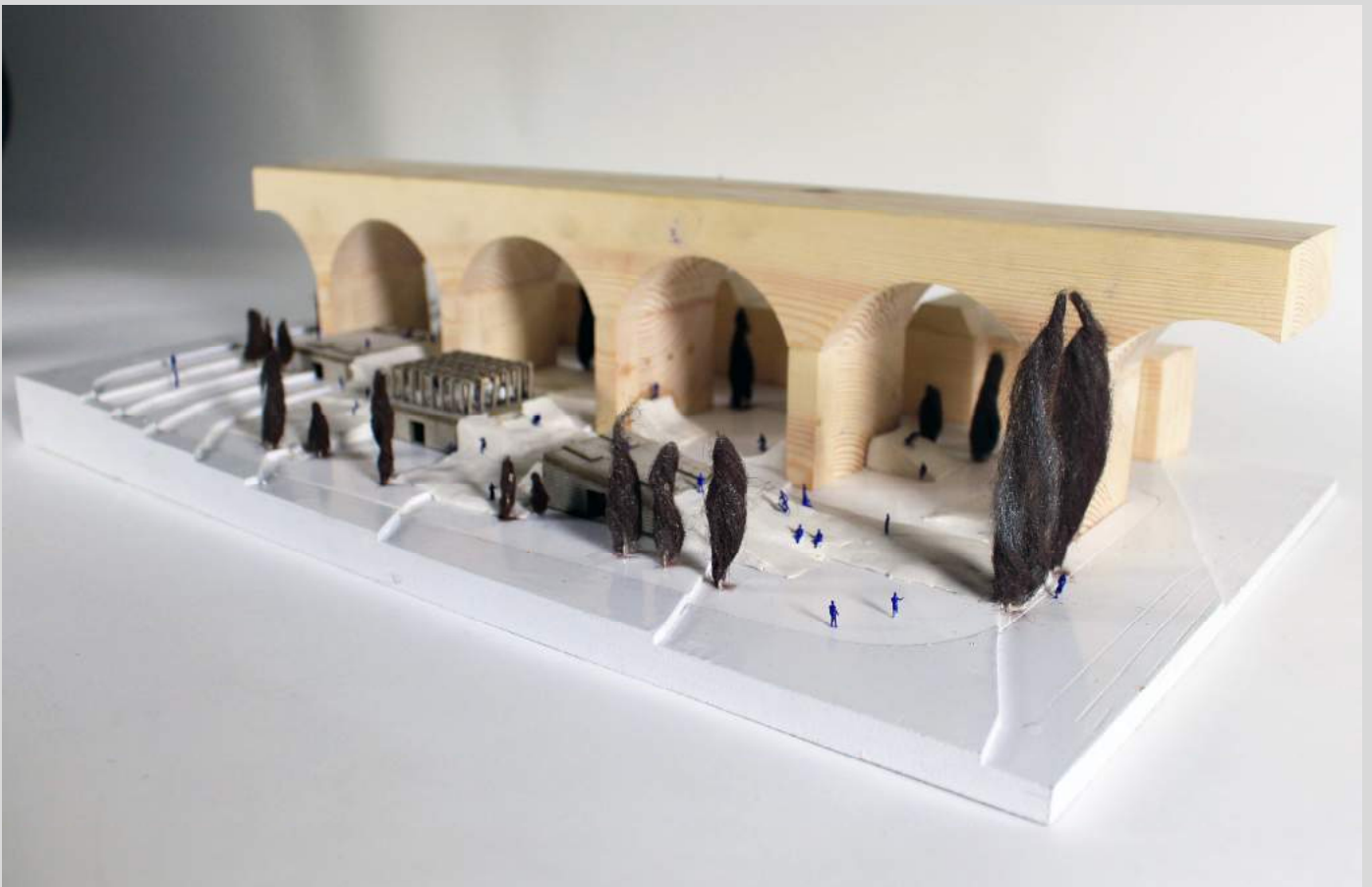
Jack Williamson
Atelier: LAND_U.S.E

The project brief was to open up the surrounding area of the viaduct to create a space that both breaks down the perceived boundary of the viaduct whilst highlighting its sculptural beauty and significance to Stockport. The programme of a sports centre was chosen as a method of both encouraging activity amongst locals whilst also attracting people to the site.

Throughout the project models were vital for me to understand the interaction between landscape and proposal. I could only understand the site once I had modelled it in three dimensions.

For my exhibition model it was key to showcase the two most important aspects: the sculptural viaduct and the variety of activities created. The understated white representation of landscape on the model helps to highlight these main points. I chose solid pine to create a distinctive viaduct, a statement piece in both the model and real life at the site.

To represent some materiality in my project the grey board represents both the use of concrete and aged timber cladding, whilst the clay represents the white oxide concrete used in my proposal. Wire wool was chosen for the trees as the massing needed to be represented accurately. They play a role in bridging the scale between building and viaduct especially when combined with scale figures giving a snapshot of the human movement across the site.



Quimai Lin

Atelier: Common Ground

The children hub is a collection of archetypal housing. I take this familiar form since a rectangular box with pitched roof is what children will draw when they are asked to draw a house. In my design, each house contains different programmes. The architectural cluster encloses an internal space, which is, the heart of the children hub and has a very open relationship with the surrounding buildings. It is an intimate safe zone for the children to run and play outdoors.

My 1: 200 conceptual model needed to show the relationship between the internal courtyard and the surroundings as well as how the separate units are linked together. The elevations facing inwards are abstractly taken out to show the strong and open relationship between the courtyard and the surrounding buildings. Stained timber patches on the ground overlay and intersect with the buildings and in this way, help to emphasize how the buildings are intertwined with each other.



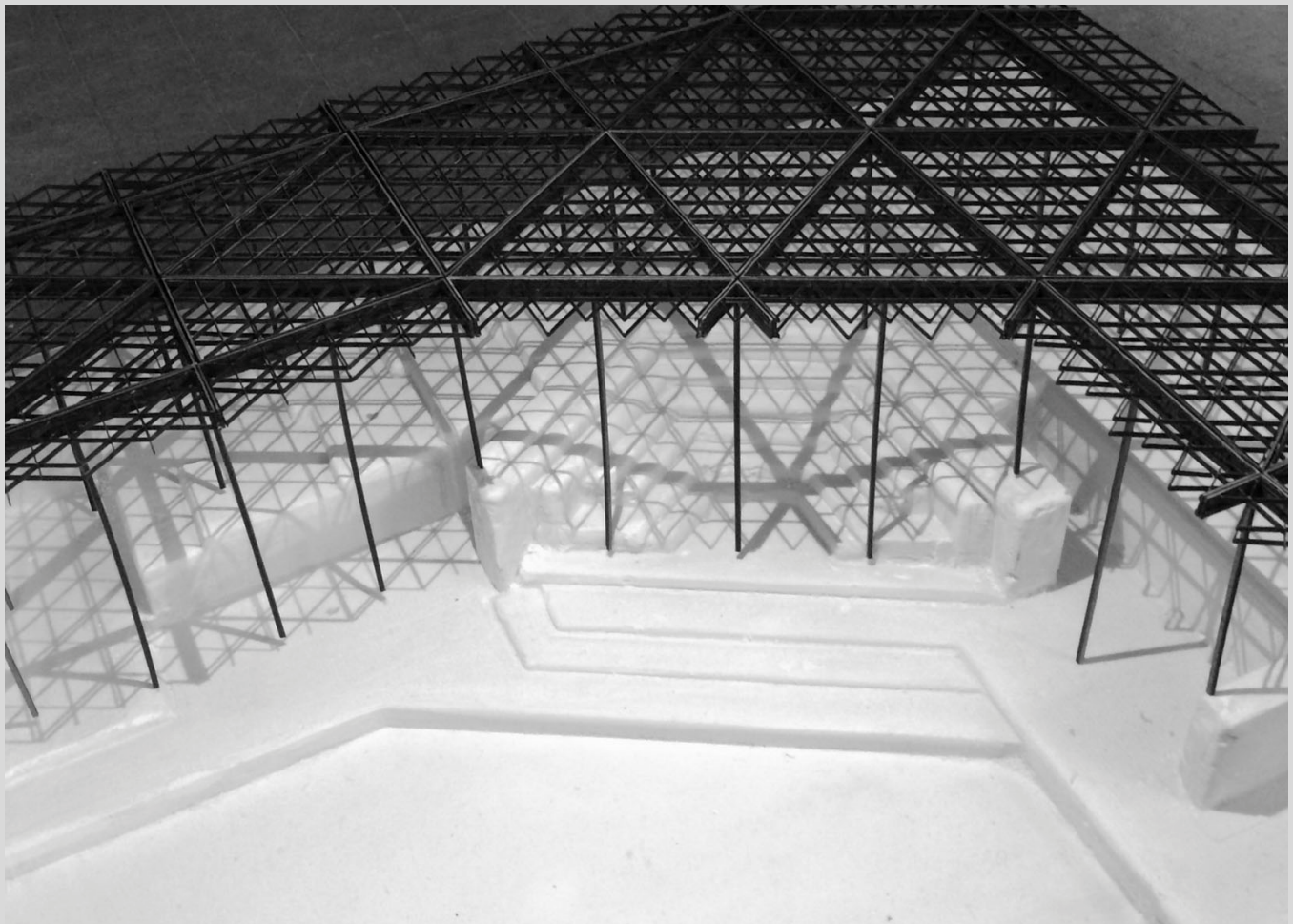
Ciara Tobin

Atelier: Common Ground

With a seriously fragmented urban fabric and an imminent water crisis, Salford needs a meeting place within the City, a common ground. Situated on the edge of the River Irwell, an artefact to the city, the Forum becomes a setting for assembly, allowing the community to actively take part in the regrowth of the city, providing a library to study, a museum to preserve heritage and document growth, and an assembly room for discourse.

A diagrammatic model highlights how integral Gottfried Semper's analysis of the tectonic and stereotomic elements is to the design. The tectonic being "the product of human artistic skill" is made from delicate laser cut members - accurate to the designed structure of the roof. The stereotomic, defined as "earthwork, formed out of the repetitive stacking of heavy-weight units", is represented as a plaster cast - it becomes an extension of the earth, a base from which the tectonic ascend.

Model making is used throughout the design process, not only as a presentation tool. Early on, clay models of the existing site were made, vacuum formed, and re-cast with plaster and concrete. From there the land was carved into, and sculpted to design a building rooted to the land. 1:50 interior models were made as spacial development, and 1:10 details were 3D printed to present joining components within the roof.





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Sam Beddingfield

Atelier: Continuity in Architecture

The programme of the building involves taking an audience through a series of highly curated spaces, each of which presents one scene in a play. A full journey through the theatre tells the classic story of Alessandro Manzoni's 'The Betrothed'.

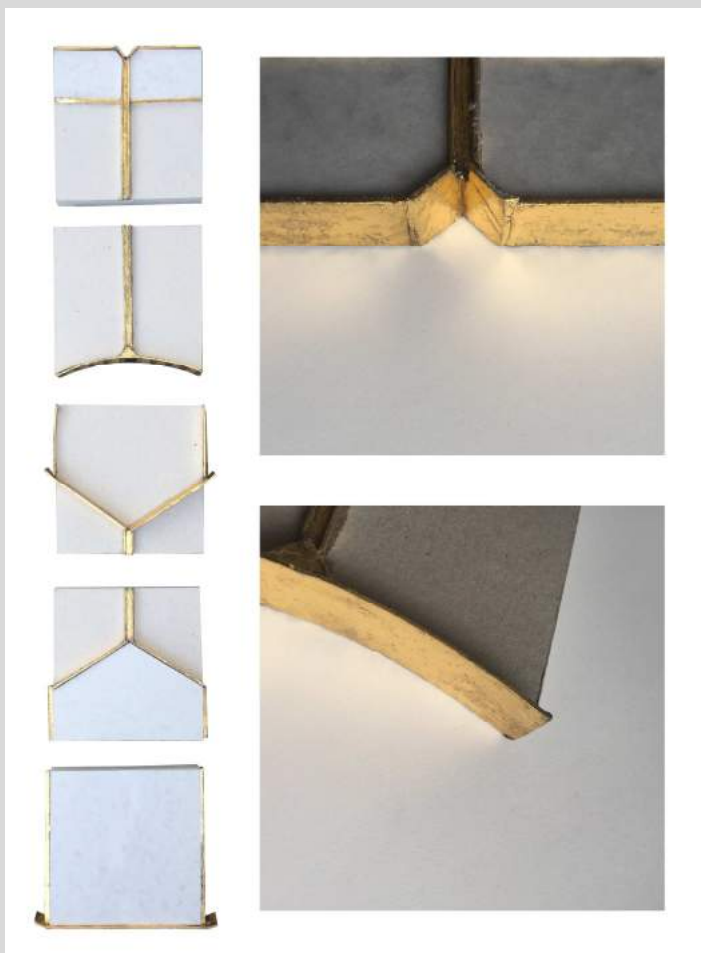
With the concept of the building being focussed on the idea of journey and passage of time, I wanted to create a practical building detail to communicate this. Inspired by the work of Carlo Scarpa, I created a system of brass lips and channels which both decorate the building and control weathering across the elevation by channelling rainwater down the facade and around the distinct Milanese arches. In the flash summer rain showers, the exterior of the theatre becomes a performance in itself.

From a practical point of view the models helped me understand where water needed to be funnelled, diverted and transferred. Another way I used these models was to develop the materiality of these details, using gold leaf and grey board to represent brass and concrete. I found that using mostly grey board gave me a good understanding of the details as every element was hand cut and glued.

For my final model I built a sectional model through the buildings tower. This model allows me to communicate how the highly specialised interior volumes are concealed by the language of the exterior.

I decided to make this as a complete 3D print for two reasons.

The first reason was that the uniform language of the print took any visual hierarchy out of the model and allowed all of the components of the building to be understood equally. I was also aware that the exhibition would be primarily black so I knew the white would work well.



Daniel Kempski & Peter Lee

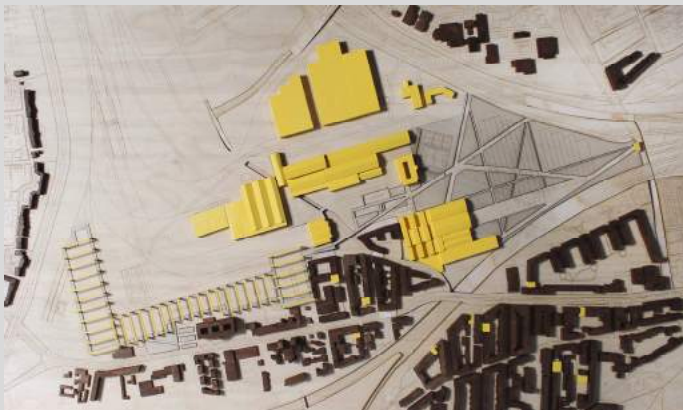
Atelier: U.S.E

This year our studio project was an open brief located in Dortmund, Germany. When exploring the city, we stumbled across a refugee centre. Speaking to Syrians waiting for processing, it was clear the system was overwhelmed; officials couldn't cope with the number of arrivals. This encounter informed our thesis focus: how can architecture provide solutions to the refugee crisis?

Our chosen site, providing spaces for the arrival, processing and integration of refugees, was a vacant steelworks to the west of the city. To deal with the scale and complexity of the vast factory, we created a 1:2000 working masterplan model. This aided greatly with the design process, providing an understanding of the site and its spatial relationships in 3D and allowing us to add and subtract elements to reprogramme the factories and warehouses. This model was later adapted into a presentation model, depicting our landscape proposal and final spatial configuration, with chemiwood (ureol model board) and 3D printed elements.

We also produced 1:200 sectional presentation models of each building within the scheme - when presented as a set, this aids with understanding the difference in scales. For speed of construction, we mostly used lasercut plywood and acrylic. Components which would have been difficult to make were 3D printed - key elements of each model were sprayed yellow to contrast the ply and provide visual continuity.

We also produced a 1:1 'care package' - alongside our proposal exists a data-driven system for the redistribution of refugees across Europe. Representing this as a physical pack communicates this abstract strategy in a tangible form.



Natalie Dosser & Diana Muresan

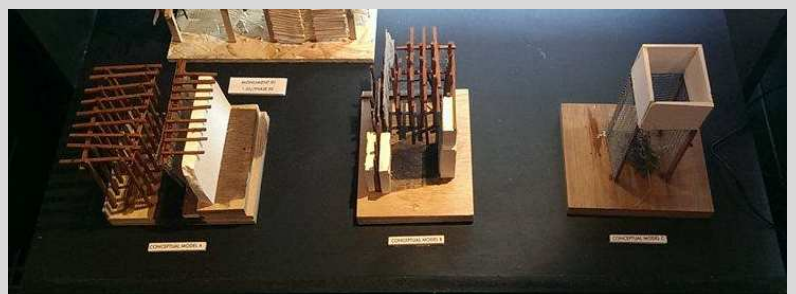
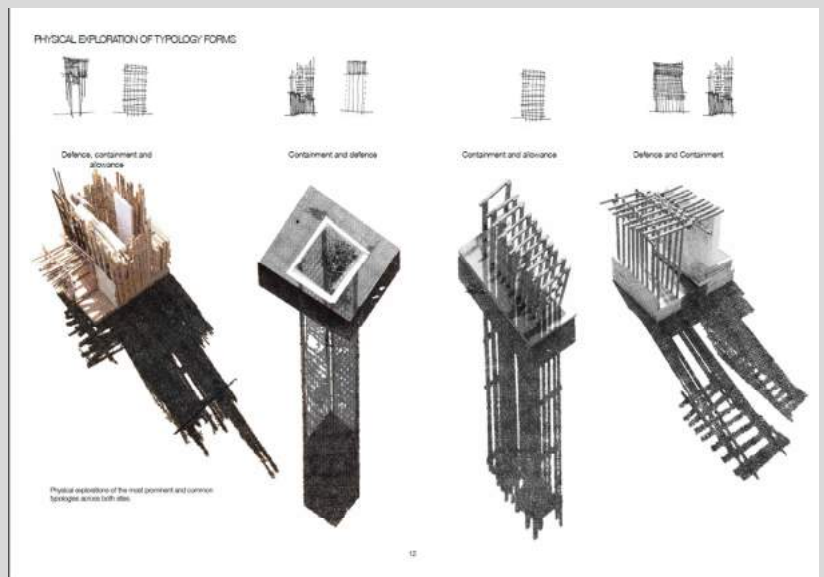
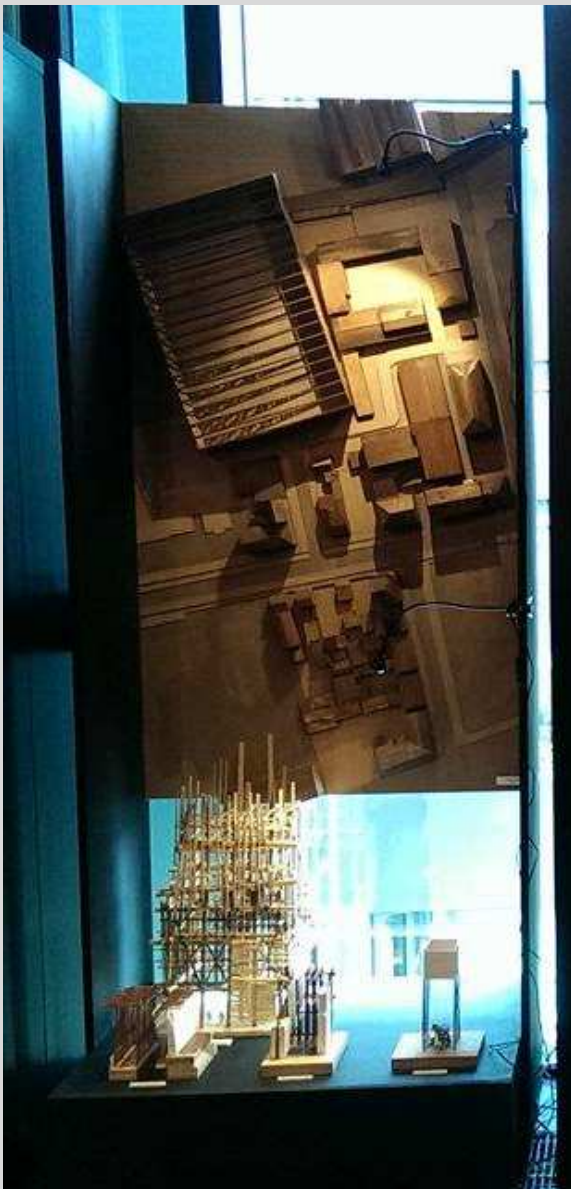
Atelier: U.S.E

Our scheme deals with transient architecture, using natural evolution and decay as a central component within the design. It is an approach to contain, defend and allow vacancy within the city, with all its ethereal essence and what we believe to be 'real' beauty.

The monuments of deterrence form a new typology within architecture, their forms depicted from the defence, containment and allowance of elements of vacancy, and are therefore specific to the context in which they sit. Our structures evolve to co-exist with the polished, maintained and static architecture, which will inevitably rise around the city within the gentrification process.

We used reclaimed and unrefined materials to portray the imperfect nature of the vacant spaces, and the differing patterns etched into the cork display the fragmented, contextual specifics of each space within the site. Our scheme sits in opposition to conventional architectural design, so it was necessary to keep this concept within the models, which are experimental in both form and materiality.

They demonstrate the versatility of the scheme, showing that the thesis can be applied in numerous ways to numerous sites, but remain loyal the main aim which is to contain, allow and defend vacant spaces. We aimed to keep an earthly, more imperfect quality within all the models we created, as this demonstrated our concept in continuity with our thesis and portfolio.



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Shortlist chosen by Laurens Kistemaker of Mecanoo on Friday 3rd June 2016
Shortlist Document Compiled by Scott Miller & Jim Backhouse

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