In this proposal the timber joint is the structure, the massing as well as the openings for natural daylight. The ability to see the context from the inside and the existing market from the outside invites a visual dialogue between Madrid and the proposed building.

The project grew from research around a timber joint and the discovery of its structural and spacial qualities through its use in the design of a series of artist studios.
1.1 Adaptive reuse of Le Cebada

Relationship of new timber structure with the existing concrete building.
1.2 Between Old and New

Library (top left), artist’s studio’s (bottom left), north-west entrance (right).
1.3 Artist Studios

Self-supporting, timber stacked furniture structures. The construction detail allows for additions to be slotted between the slats such as benches, shelves or hanging spaces for artists to attach/display their work and to allow for expansion and personalisation of their pod.
MIT Core III

Project in collaboration with Nare Filiposyan and Gil Sunshine.
Instructor: Sheila Kennedy

In a context such as Valle de Guadalupe, where water is everything yet there is little of it, even the near future of the winery seems impossible. This project anticipates the end of wine production in the Valle offering spaces of production that are specific to wine making yet able to be transformed in order to grow and process other crops in the future. Symbolically, the winery might assist in the decolonization of the land, by replacing grapes with native plants, such as agave, that are less water intensive. The building is an adaptable stage that facilitates future modes of production and, in this way, can be understood as a piece of infrastructure, able to adapt to changing environmental conditions. Here, sustainability might be understood as the long term productivity and relevance of a piece of architecture.

Three massive boulders that dominate the site serve as anchors for the project in several ways. First, the boulders function as the foundation for the structure. They also serve as the central organizational forces of the program and finally, they are relied upon for their capacity to help regulate thermal conditions. The titanic force of the boulders is contrasted by the primary structural system, a rebar space truss. The space truss can be understood as a solid volume that is carved into to create functional spaces. This serves as a sponge that absorbs wine production, lab and public spaces. A mechanical fastening system is developed such that the entire structure could be demounted and its parts re-purposed elsewhere.
2.1 Boulder Force
The primary structural system, the rebar space truss, is contrasted by and anchored off the titanic boulders.

2.2 Space Truss
The space truss can be understood as a solid volume that is carved into to create functional spaces. This serves as a sponge that absorbs wine production, lab and public spaces.
2.3 Inhabitation
1:20 model experimenting with ways to inhabit the space truss and the different materials used to enable varying degrees of enclosure.

2.4 1:20 Fragment model
Exploring the spacial qualities and fragmentation of the space truss as well as the fog catcher in the roof structure.

Below is a mechanical fastening system, developed such that the entire structure could be demounted and its parts re-purposed elsewhere.
This proposal for a YMCA in Coney Island, conceptually explores dualities, how two things lock together and how to spatialize them.

The proposal for The Y tilts the ground of the site, and plugs the building into the base. Within the building, the split levels hold different programs within wedges that are locked together like teeth, highlighted in the drawings through the use of different wallpaper. The board walk is extended from the beach into the building and wraps through the building as a central ramp, spatializing the line created between the interlocking internal wedges.

2.5 Environmental strategies

The proposal is a piece of infrastructure, able to adapt to changing environmental conditions.
3.1 Dualities
Initial concept diagrams and models exploring different ways two things can join together and the relationship between them.

3.2 The Y
Section illustrating how the crown seeps into the building through the central void as well as the locking of the split levels and how the ramp spatializes these intersections. On the fifth level, the ramp extends to become the auditorium.
3.3 The Y - Plans

Plans of each level of The Y, program is embedded within geometries explored at concept stage.
3.4 The Y - Base and crown

Model demonstrating the relationship between the base and the crown of the building and how the locking of the interior spaces can be read from the facade.
4.1 Artifice in 4 Acts
The monolith with each quadrant activated (clockwise), fall (centre forward), winter, spring and summer.

4.2 Casting the artifice
Rockite casts illustrating the activation of each quadrant of the monolith. This was the product of experimental casting with different materials including, rocks, beads, glitter, plexi-glass, sand, and foam to construct artificial landscapes.
Bartlett Year III

Located in Shibuya, Tokyo, The Hashigakari Noh Theatre School honours the rich tradition of Noh and invites the community to take part in the creation of the theatre performance. The building is based around five crafts of Noh; acting, music, stage-craft, mask and costume design. The stage forms the confluence point of the five schools. The roof is considered as the fifth façade. Designed to transpose the environment of Miyajima (the location of the first Noh stage and only stage floating in water) to Shibuya, the audience is transported to the origin of Noh.

The initial research for this project analysed the traditional way Noh masks are carved. The expressions of the mask change according to angle at which they are illuminated. I created three anthropomorphic façades based on three main Noh characters. Throughout the course of the day the sun illuminates the façades which changes their ‘expressions’, thus the façades mimic the various emotions of the characters.

4.3 The 4 Seasons
Model photographs - winter (top left), autumn (top right), spring (bottom left), summer (bottom right).
5.1 “Noh-ify”

“Noh-ify” is a term invented to describe a technique of applying rules and characteristics inspired by Noh masks to existing façades. The expressions of the anthropomorphic façades change as the position of the sun changes. This was the starting point of my research into Noh.

5.2 Carving the masks

The masks are double sided CNC milled. The reverse side is the negative of the original building on which the façades were based. Thus the façade could fit a building as a mask could fit a face.
5.3 Character performance
The final piece of the research project was a film of the physical model being performed. This drawing is an illustration of the audience’s view. The base for the models was inspired by the Noh Theatre stage complete with the columns used to help the masked actors locate themselves on the stage. The base has carved routes along which the façades can be moved to recapitulate the trajectory of the sun thus illuminating them and mimicking various emotions of the characters throughout the day-long performance.

5.4 Choreography of the characters
This is an elevation of how the performance plays out.
5.5 The Noh Theatre School Model

Drawing of exploded model illustrating components of the roof in relation to the building and its programmatic context.

5.5 The Noh Theatre School Model

View of exploded components of the roof in relation to the interior.
5.6 The Hashigakari Noh Theatre School
The building is based around the five crafts of Noh: acting, music, stage-craft, mask and costume design. The stage forms the confluence point of the five schools.

5.7 The Hashigakari Noh Theatre School
The roof as a fifth façade serves various functions to influence the internal conditions, manipulating sunlight, wind, water and sound to reinterpret the floating outdoor stage in Miyajima where Noh originated.
Rain
Pools fill up with rain water
Cant copper and concrete tiles hold pockets of water that overflow creating cascade effect.
Copper was chosen for weathering to represent the mountainous landscape of Miyajima.
Facade protected from weathering.

Craft school entrance
Ground level
Extension of roof into walls of interior
Exterior of roof in walls of interior
Timber frame structure
Seigaiha tiles
Exposed concrete structure
Facade protected from weathering.

Water cascade
Lobby
Reflection from mirrored surface
Walled interior
Walled exterior

5.8 Outside In (Technical dissertation)
Technical investigation into the role of the roof in recreating an interpretation of the natural environment of Miyajima in the theatre space of the Hashigakari Noh Theatre School, Shibuya.

Bartlett Year II
Instructors: Pascal Bronner and Thomas Hillier.
Hunters Point naval shipyard is known as the radioactive basement of San Francisco. This building aims to create a renewed sense of healthy well-being to the community. Floating within the shipyard dock itself, aeroponic gardens propagate healthy food for local citizens.
Plants used in the toxic soil surrounding the site are chosen for their properties of phytoremediation.
6.1 The Hunters Point Project

The building comprises areas to pick, dry, press, clean, eat and compost the fruit grown aeroponically on site. Hand drawn plan, pencil on cartridge paper.

6.2 The Hunters Point Project

Hand drawn sections through the floating community centre showing plants aeroponically growing off timber structures, drying on a tower then preserved in jars or hung to be sold in baskets.
6.3 The Floating City

Re-imagining the design of the floating city that emerged in San Francisco during the time of the gold rush. Abandoned boats are rafted together to form a community on the water.

Mary Duggan Architects

During my experience as an Architectural Assistant in London, I have had experience working in teams between two to eight people on a playground, a private house extension, event space for the Science Museum, a performing arts centre and a 110 unit residential scheme in Croydon. I experiment with models and drawings to test ideas with the team that are used as part of the discussion with the clients and consultants.

All models and drawings shown have been made by me unless otherwise stated. All images belong to Mary Duggan Architects.
This project was lead by the associate alongside the principle of MDA and I was part of the team of three working on the project. I helped develop the project at concept stage, specifically the layout of the spaces, as well as the design of the vitrines. The design reflected the different stages in Lange’s career, the first room was completely finished like the interior of her photography studio where her initial commissions took place. As the visitor progresses through the exhibition, each box was more stripped back to reflect the journalistic progression of her career and the raw and impoverished conditions depicted in her photographs hanging on the walls.
This project is a third floor (living) refurbishment and fourth floor (music studio) extension to an existing industrial building, for a music composer client. Photographed by Jack Hobhouse.

1:50 plaster cast model illustrating the installation of pre-cast brick panel facade. The balustrade was built out of one acid etched piece of brass that was folded and slotted in place minimising the use of glue.
7.3 MDA - Lion Green Road
A section through the site illustrating the landscape between the buildings and the relationship to the Scheduled Ancient Monument on the north of the site.

7.3 MDA - Lion Green Road
Rendered site plan depicting how the five buildings sit in the landscape and planting in used to delineate private, semi-private and public domains.
7.3 MDA - Lion Green Road

Plaster casts exploring texture and colour at 1:10, mass of the buildings at 1:200 and window details at 1:10, for a 110 residential scheme in Croydon. Photographed by Jack Hobhouse.
7.4 MDA - Alfriston School Performing Arts Centre

1:33 Pigmented jesmonite cast of the chamfered facade. The model explores the form-work layout in the facade as well as the fluted detail around the base, guiding the visitor to the entrance of the building.