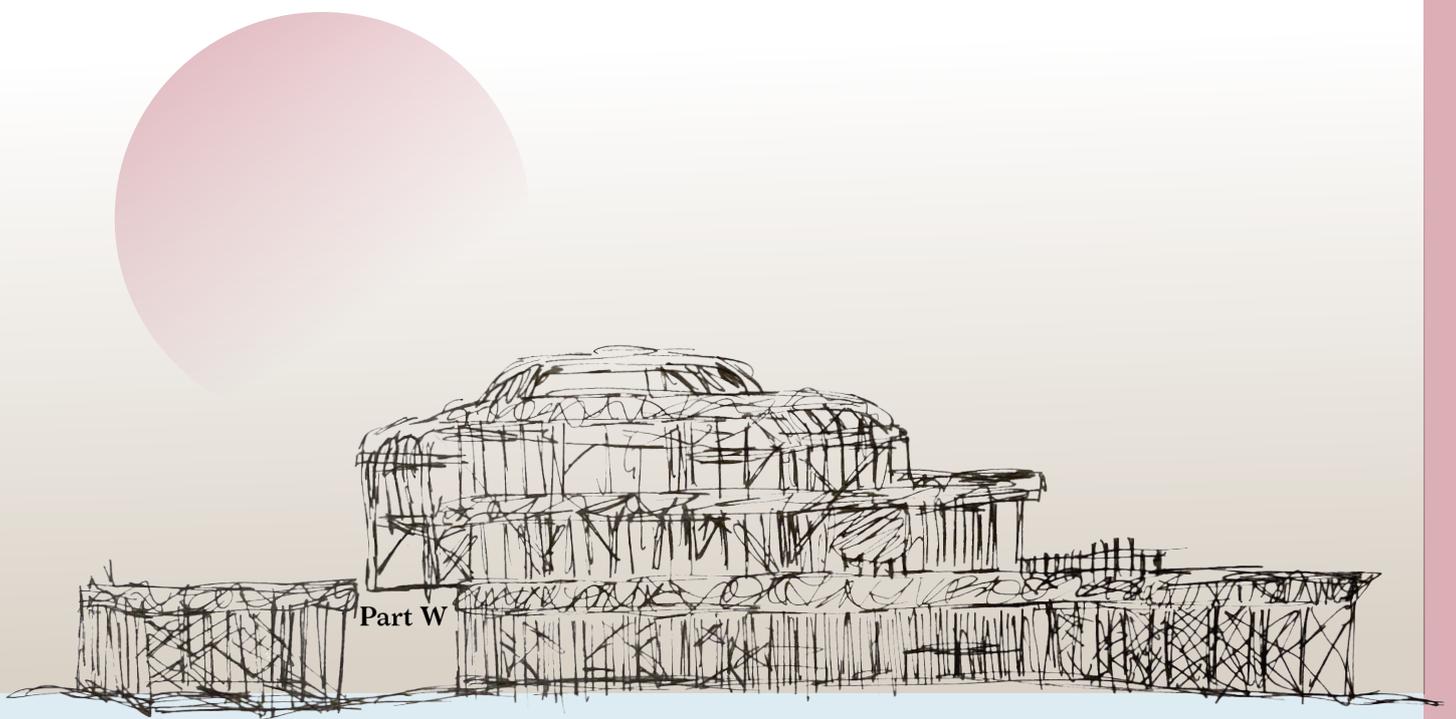


ALMANAC

PART W - RECONSTRUCTING EQUALITY



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Chapter 01

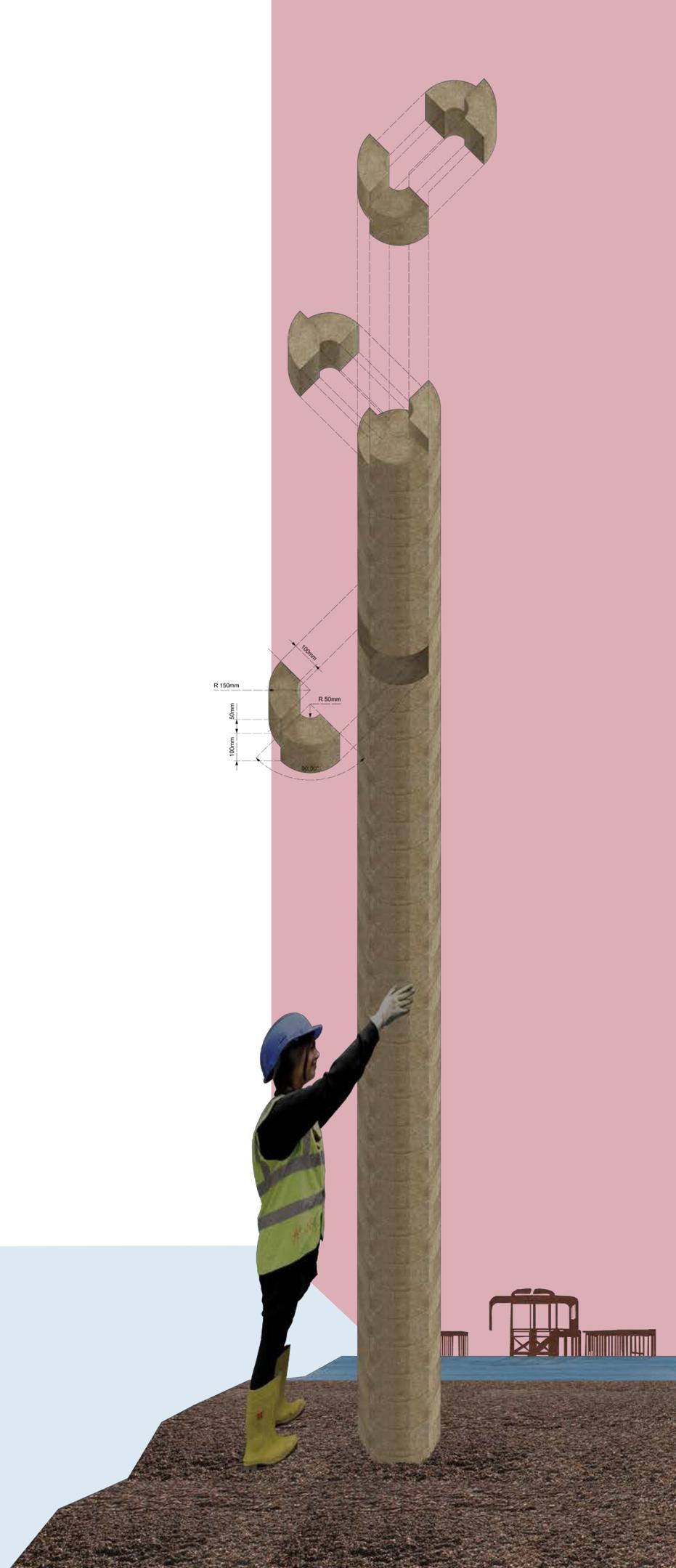
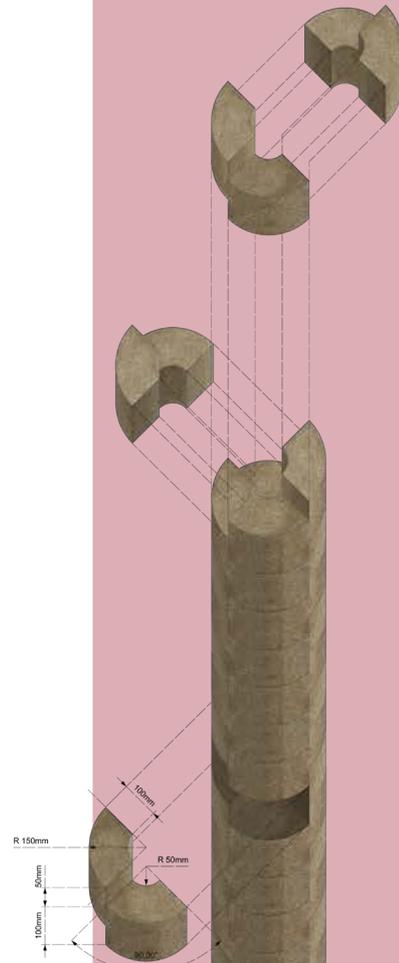
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01.1

TOTEM - Summary of semester 1 project

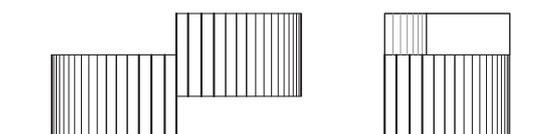
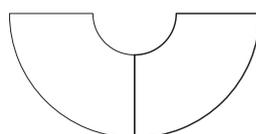
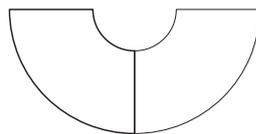
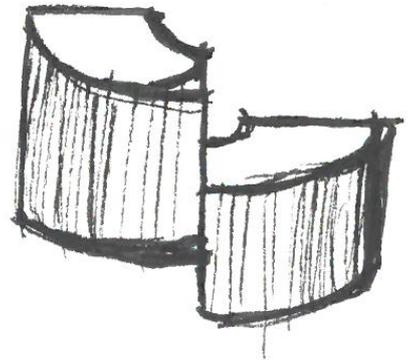
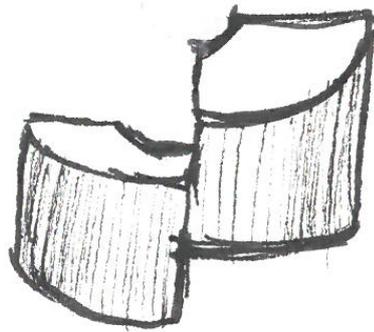
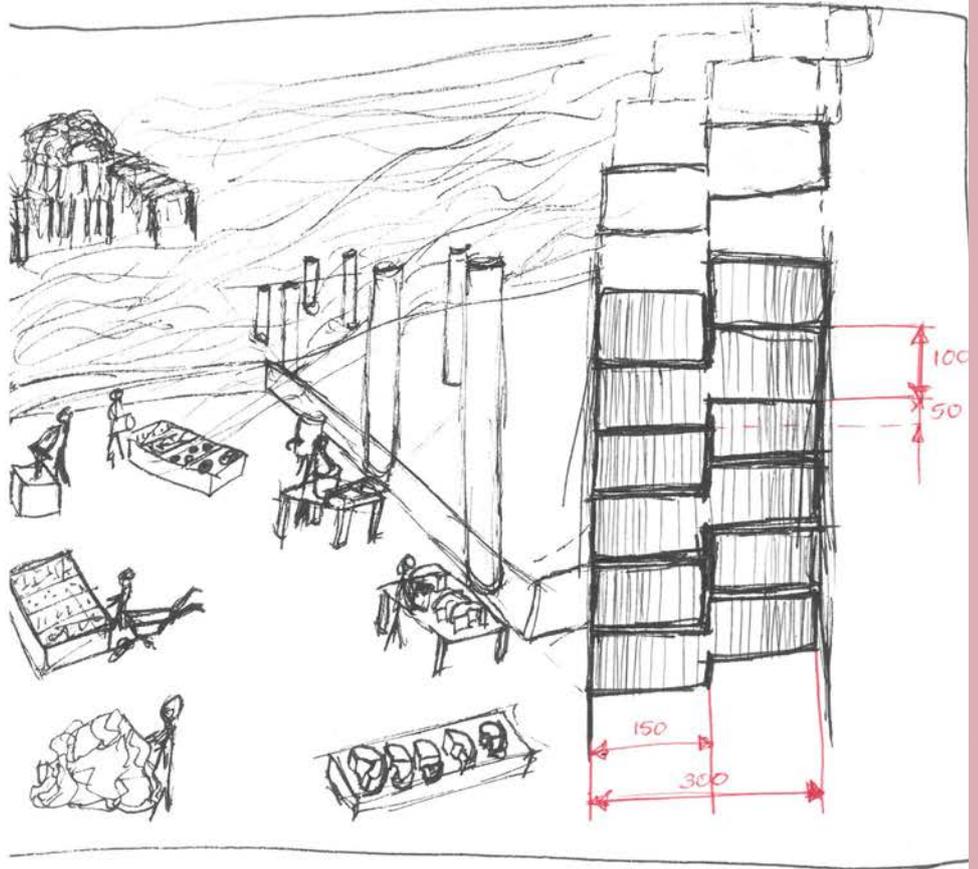
During semester one design module, I've designed a totem which was supposed to draw attention to women's position in construction trade. More so the lack of it. I was very intrigued that so little women are recognised and respected in this trade. My research started with looking at women's rights in United Kingdom, how they look right now and what they might be after Brexit. Females rights haven't been recognised in UK until 1918. That's when women gained the right to vote just like men. Since then women started the long journey to gain equal rights as men in our society. Unfortunately even today, 102 years later we experience gender inequality in the modern society. Gender inequality became my catalyst for semester one design. As that catalyst was so broad I've decided to analyse woman role in a specific profession in which I thought that women weren't treated equal. The profession that lacks in female specialists is masonry. Construction trade has been dominated by men since its beginnings, I've chose to focus my research on this particular trade. To narrow it even further I've chose to look at masonry trade, bricklaying. That trade is dominated by men and women aren't encouraged to be specialised in this profession. My totem was a live installation directed by a female artist which main goal was to create a new sustainable material using locally found waste. As I focused on bricklaying I've picked construction waste as my recycled material to create custom interlocking bricks. The whole process of material making happened on the beach with a help of simple non electrical tools. The new bricks were used to reconstruct a column that once stood on the beach to support West Piers decking. I wanted the public to view a female bricklayer at work. As well let the public observe the process of creating new sustainable material which can be cast into any shape and used in construction.



01.1

TOTEM - Brick design

The design of the brick went through a lot of iterations and perfecting. I've created clay models of all the iterations in small scale to see how they would connect with each other; this process was necessary to eliminate any weak elements of the design and imperfections. My final design eliminated all the weak points of the previous iterations of the bricks. New brick has a smooth surface all around. The shape is designed in a way which allows to be stack on top of each other and has an interlocking system, like building blocks and stays up thanks to gravity and the weight of the material which keeps them in place. No additional mortar is required for assembly which makes them easily recyclable. The blocks can be transported and reused in different projects if no longer needed.



01.1

TOTEM - New sustainable material

To create a new sustainable material using construction waste I had to go through a process of 'try and error'. During this process I've tested different materials and methods. One that I've chosen to use was construction waste and the method was to grind the waste materials and find the right ratio for the formula to cast the new bricks in. I've done three formula tests to create the strongest material. I've used different construction waste products like old mortar, ceramic tiles and clay roof tiles. Most successful test turned out to be formula three.

The ratio for formula three is 3 parts powdered materials (finest grid), 3 parts aggregate and 1 part cement. To combine all the materials together to form a paste I've used 4 parts water.

It's the same ratio as in formula one but this time I've replaced the sand with the powdered materials, the finest grid and added cement as reinforcement of the formula to add the extra strength, this formula required more water.

This formula turned out to be the most successful, it hasn't crumbled or broken apart while taking it out of the mould. The formula required a binding material which I tried to replace with only recycled or sustainable/natural materials, unfortunately it wasn't possible. I haven't managed to get that perfect formula using only recycled materials but found out that you can definitely use waste in high proportion to brand new materials.

Process of mixing the formula.



Drying/curing of the formula.



01.1

TOTEM - Model of the brick

Near the end of the project and term, I've made a 1:2 scale model of the brick. Unfortunately due to limited amount of time I couldn't source required amount of construction waste to cast the brick in the tested material. The process of sourcing, grinding and sorting of the waste materials takes a lot of time and for me the time was very limited that's why I decided to use another sustainable material which is clay to make the 1:2 test model of the brick. Clay could be easily used to make those brick with and would have the same strength qualities as the waste material.



01.2

PROGRAMME - Q&A

First programme workshop outcome, by answering those questions I've tried to identify what my programme will be, what activity will happen inside my pavilion and what spacial requirements are needed to carry out this activity as well what materials and systems I plan on using for the design.

Q1. In a word or phrase, describe your chosen programme.

A1. Workshop and exhibition space

Q2. What is the specific theme of your programme and how is it 'British'?

A2. To show the history of woman's role in the British construction trade, concentrating on woman's place in masonry/bricklaying trade and similar techniques.

Q3. Elaborate on what activities and functions your pavilion/installation will perform?

A3. Viewing of a reconstructed part of the pier with help of sustainable materials, contrast between the old pier and new. Workshop space where visitors can participate in the making of the new sustainable material.

Q4. What fixed or differing environmental and spatial types might your pavilion need and why/ and are they in one or multiple locations on the pier/surrounding context?

A4. Space for a workshop where it's safe for the participants to make the materials. Space sheltered from rain and wind. Exhibition area that's showcasing the rebuild part of the pier(space that you can walk through, pass through). Exhibited new materials contrasting with old. Two locations, one sheltered from the elements and one open to the elements.

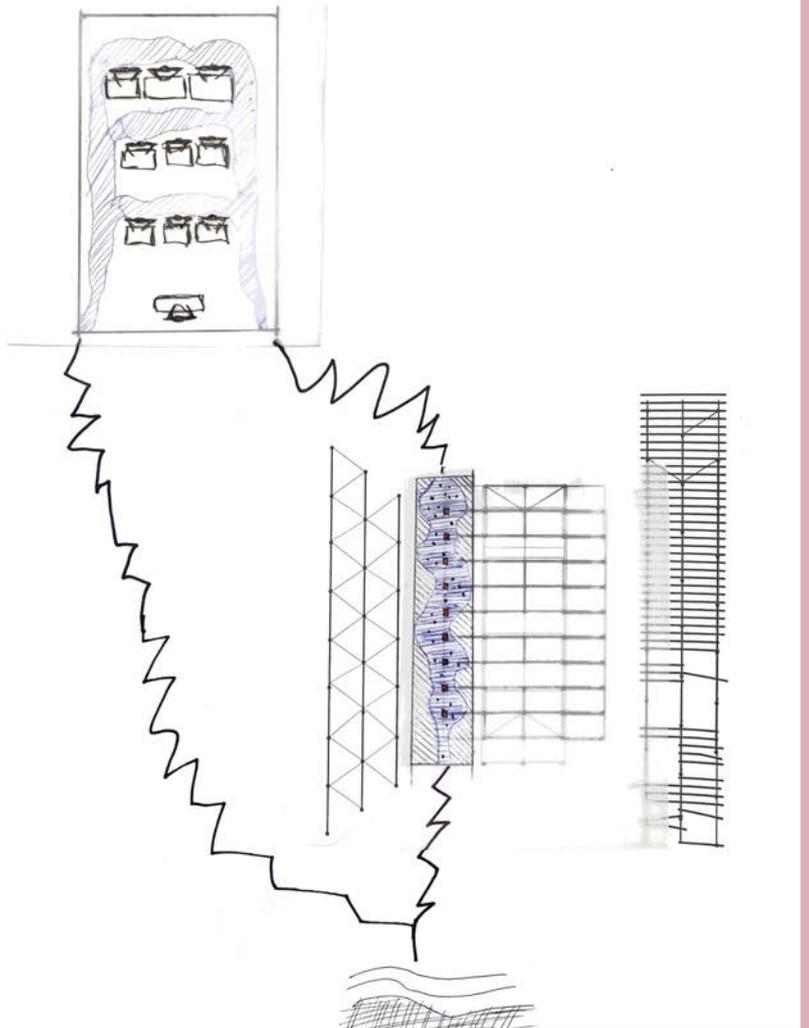
Q5. Who will be entering, viewing, interacting with your pavilion or installation and how?

A5. Exhibition location is a sort of 'pass through space' that leads you further on to the pier and the 'maker space'. Any number of people can view it at once. The workshop space large enough for group of 10-15 people. Safe for anyone age 10+. Exhibition open for view during opening hours, maker space few sessions a day, 4-6, booked in advance.

Q6. How do you envisage your SysMat work/ Totem from semester 1 informing your programme or pavilion and how does it relate to the theme of sustainability - ie how is your pavilion/installation sustainable?

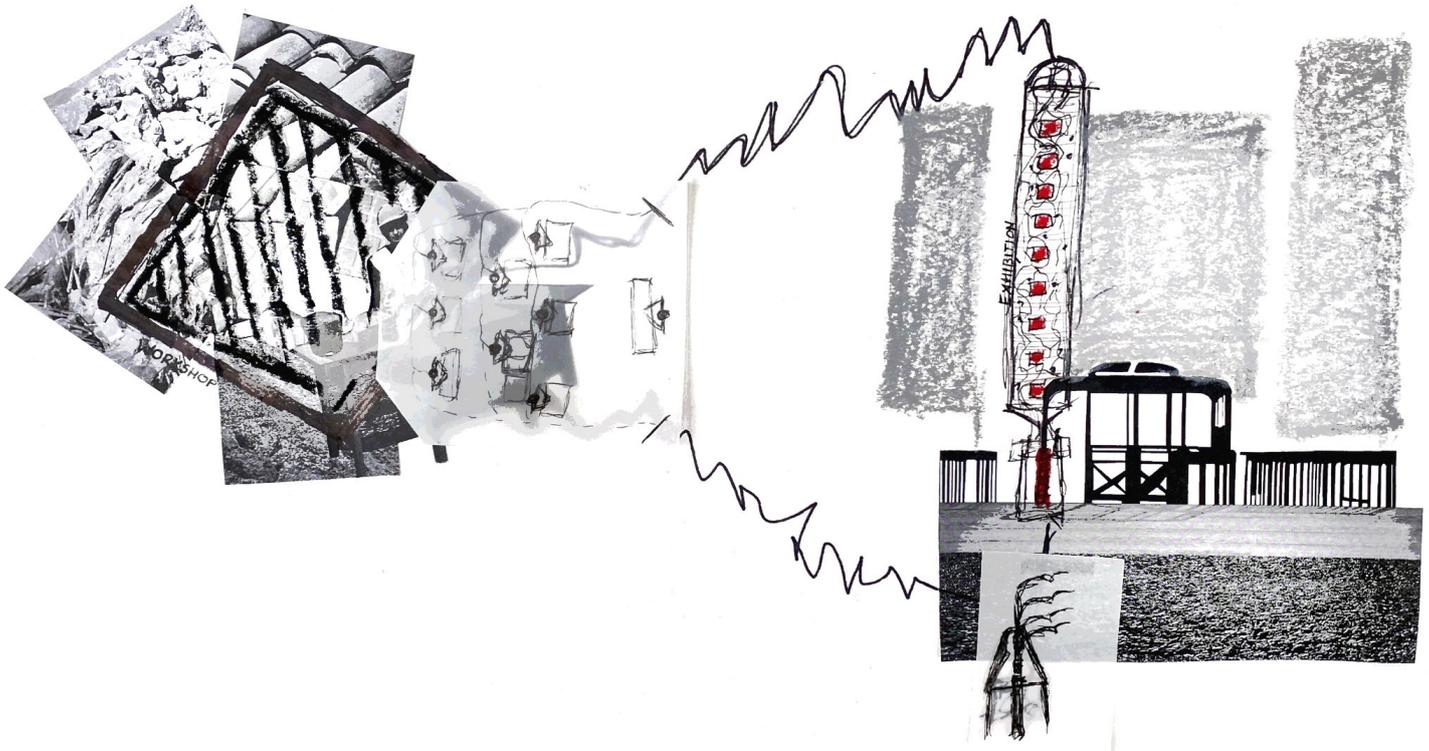
A6. I still want to look at sustainable recycled materials, create a new material which I'll use to reconstruct the missing part of the pier. I need to look at how the new material would meet with the old(connection, thresholds) The reconstructed parts of the pier would remain on site afterwards.

In summery I plan on rebuilding part of the collapsed pier. Inside my pavilion I want to have space for exhibition and a workshop. I want to continue using my catalyst from the semester 1 project and celebrate women and their craftsmanship in creative industries. I've decided to change my focus from females masons to female designers. My pavilion will be a making and production space with a workshop were you can help create a piece of the column and help with its reconstruction.

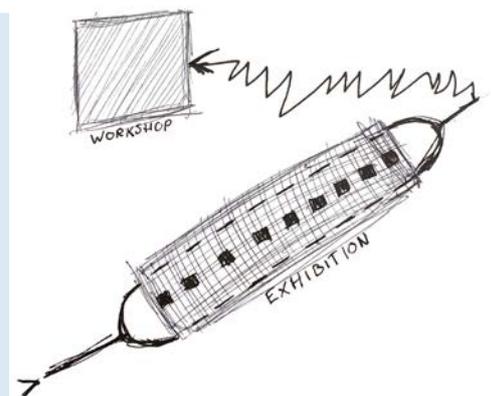


01.2

PROGRAMME - Collaging



In this collage I tried to explore the journey to, through and from my pavilion. Beside that I started exploring the spatial requirements of my pavilion. At this point I know that the two key spaces for my programme are workshop where visitors can create a piece that will help with restoration of the columns, plus an exhibition space where the reconstructed columns can be viewed during the reconstruction and afterwards. The spacial requirements of the spaces like volume, height and lighting are being researched right now, the design of those spaces isn't thought out at this stage. I imagine that the exhibition space will be an open area without any walls, keeping the original concept of the pier being an open space were you could stroll around. On the other hand, the workshop would be a space which is completely closed from all the elements, space which is safe for the visitor/user and has/creates good energy which helps with staying focused and productive. The space can't be to distractive, the participants of the workshops need to be able to focus and follow the instructions given by the instructor. I think of this space to not be bigger than fitting 8-10 participants at a time.



01.2

PROGRAMME - Spatial requirements

Workshop space:

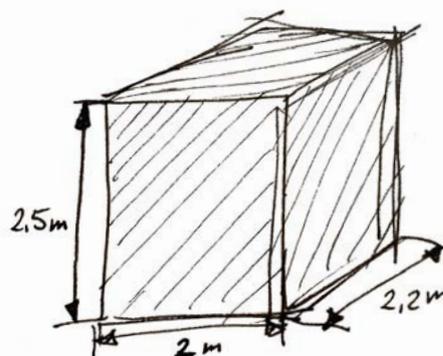
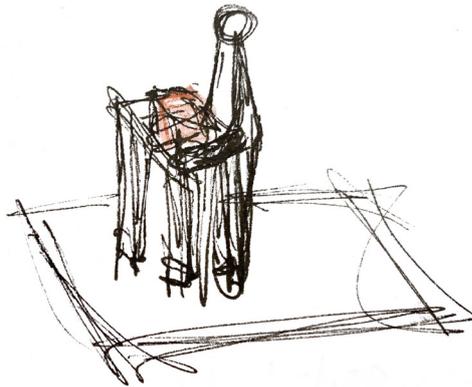
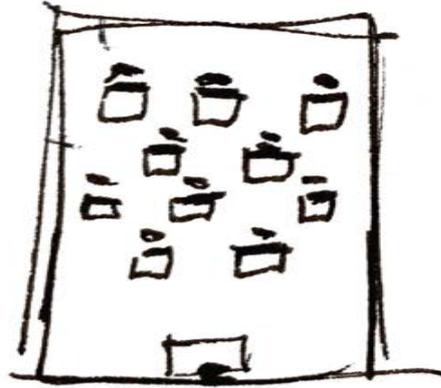
Space where you create your own material from recycled materials which once done they're being used to reconstruct the missing parts of the columns. All materials would be sustainable, recycled or salvaged. The main focus of the workshop is to RECYCLE. The workshop won't be suitable for small kids. Groups no bigger than 10 people + instructor. During the session you will create your own piece of construction material which will be used to reconstruct the missing columns.

Closed of space only accessible for the pre booked participants. Sheltered from rain and wind, heated and well lit. An internal space.

Workshop space regulations:

Health and Safety Executive (HSE) states in their Workplace Regulations 1992 that the minimum required space per person in a working environment is 11 cubic meters (Regulation 10). If said space was 2,5 meters high the floor area per person should be 2,0 by 2,2 meters (4,4 square meters) If the space is 3 meters high the floor area would be 2,0 by 1,85 meters (3,7 square meters). For the workshop to fit 10 people + instructor it would have to have a volume of 121 cubic meters.

The area of the work shop would be around 48,4 square meters if the rooms height was 2,5 meters, in a square the area would be 24,2x24,2 meters. If it was a rectangular room the area could be 16x3 meters and the total area would be 48 square meters.



01.2

PROGRAMME - Old and New stitched together



Brighton West Pier, 1866. Image source: West Pier Trust ¹

The aim of my programme is to stitch back piers structure to make it sound again and prolong its longevity. I want to preserve piers history but at the same time highlight all the events and tragedies it went through. The Piers history is full with events and the most recent ones are severe fires which made the most impact on what is left of the pier today.

For the reconstruction of the pier I want to use materials that will contrast with the old rusting cast iron structure. My last term design project revolved around masonry and I want to incorporate the material that I've created into this design. At this point I'm not sure how I'll incorporate it as I haven't started the design process.

As an inspiration I've looked at three precedents of projects that dealt with the same concept, marrying the old with the new or complementing the old historical with modern technologies and materials. The projects I've looked at are:

- House remodel by Boris Gandy and OPSIN, Sarthe, France
- Neues Museum by David Chipperfield Architects and Julian Harrap Architects, Berlin, Germany
- Rehabilitation of the Castle of the Coracera, San Martín de Valdeiglesias, Spain



Brighton West Pier, 1903. Image source: Brighton and Hove News ²



Brighton West Pier, 2003. Image source: Getty ³



Brighton West Pier, 2003. Image source: West Pier Trust ⁴

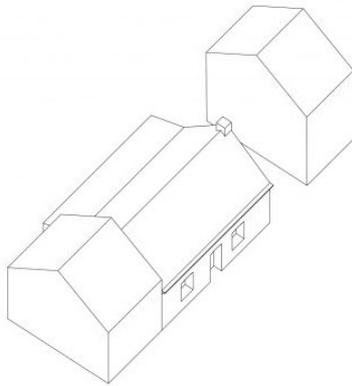
01.2

PROGRAMME - Old and New stitched together

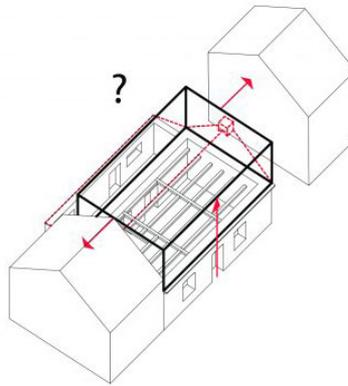
HOUSE REMODEL BY BORIS GANDY AND OPSIN, SARTHE, FRANCE, 2005

This is a residential project that connects the old house with new modern roof extension. The architects wanted to make the design feel light and seamless. As if they've sliced the roof off and placed a new element of the building on top. In this project the exterior shows the relation between the old and new but the interior space has a new modern identity which was the clients requirement.

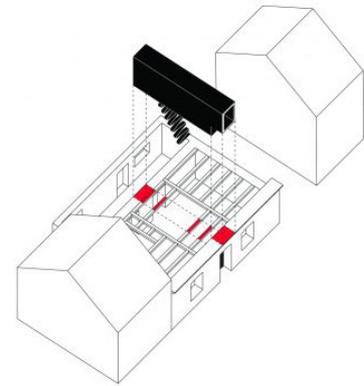
"The major challenge of an elevation is to allow by the "simple" removal of a roof, to completely reorganize the interior space of a dwelling, to affirm a new identity while ensuring its insertion in a given context" - Boris Gandy architect in Nancy (Text taken from www.gandyarchitecture.com , translated from French to English)



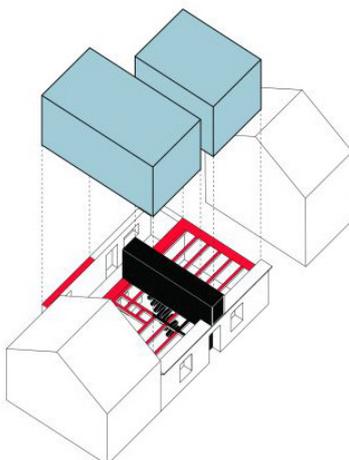
Phase 0 . EXISTANT



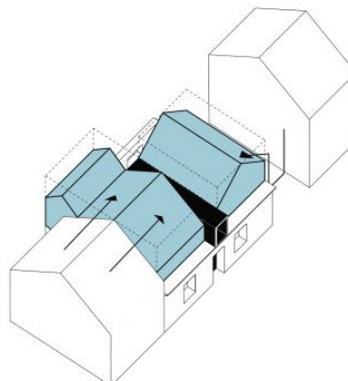
Phase 1 . REFLEXION



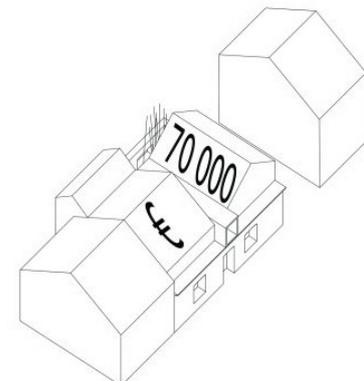
Phase 2 . LIAISON RDC-R+1/ DISTRIBUTION VERTICALE



Phase 3 . DEUX VOLUMES D'HABITATION



Phase 4 . LIAISON R+1-EXISTANTS / DISTRIBUTION HORIZONTALE



Phase finale . UNE SURELEVATION + UNE PIECE URBAINE = 70 000€

01.2

PROGRAMME - Old and New stitched together

NEUES MUSEUM BY DAVID CHIPPERFIELD ARCHITECTS AND JULIAN HARRAP ARCHITECTS, BERLIN, GERMANY, 1998-2009

The Neues Museum on Berlin's Museum Island was designed by Friedrich August Stüler and built between 1841 and 1859. Extensive bombing during the Second World War left the building in ruins, with entire sections missing completely and others severely damaged. In 1997, David Chipperfield Architects won the international competition for the rebuilding of the Neues Museum in collaboration with Julian Harrap. The key aim of the project was to recomplete the original volume, and encompassed the repair and restoration of the parts that remained after the destruction of the Second World War. The original sequence of rooms was restored with new building sections that create continuity with the existing structure. The archaeological restoration followed the guidelines of the Charter of Venice, respecting the historical structure in its different states of preservation. All the gaps in the existing structure were filled in without competing with the existing structure in terms of brightness and surface. The restoration and repair of the existing is driven by the idea that the original structure should be emphasized in its spatial context and original materiality, the new reflects the lost without imitating it.



Image source: David Chipperfield website ⁸



Image source: David Chipperfield website ⁹



Image source: David Chipperfield website ¹⁰



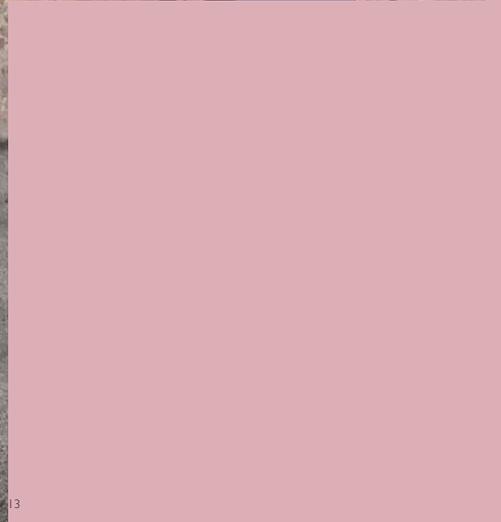
Image source: Museumsportal Berlin website ¹¹

01.2

PROGRAMME - Old and New stitched together

REHABILITATION OF THE CASTLE OF THE CORACERA, SAN MARTÍN DE VALDEIGLESIAS, SPAIN, 2010

La Coracera Castle, in San Martín de Valdeiglesias, was declared Historic Heritage Site by the Comunidad de Madrid. It was built in the mid-1400s by Don Alvaro de Luna, Constable of Castile and favorite of King John II. In order to revitalize the castle it was planned to transform it into a multiple use space, to hold exhibitions, lectures, chamber concerts and activities relevant to its potential use as a Museum of Wine of Madrid. The stone structure is not covered when its quality and authenticity deserve it. The exterior was cleaned and repointed with a finish similar to that of the exterior walls. In the interior the new interventions try to highlight the original elements and architecture with elements of new design that do not alter the original concept of the castle. The insertions act as if they were furniture that at any given time can be disposed off/removed without interfering with the original architecture.



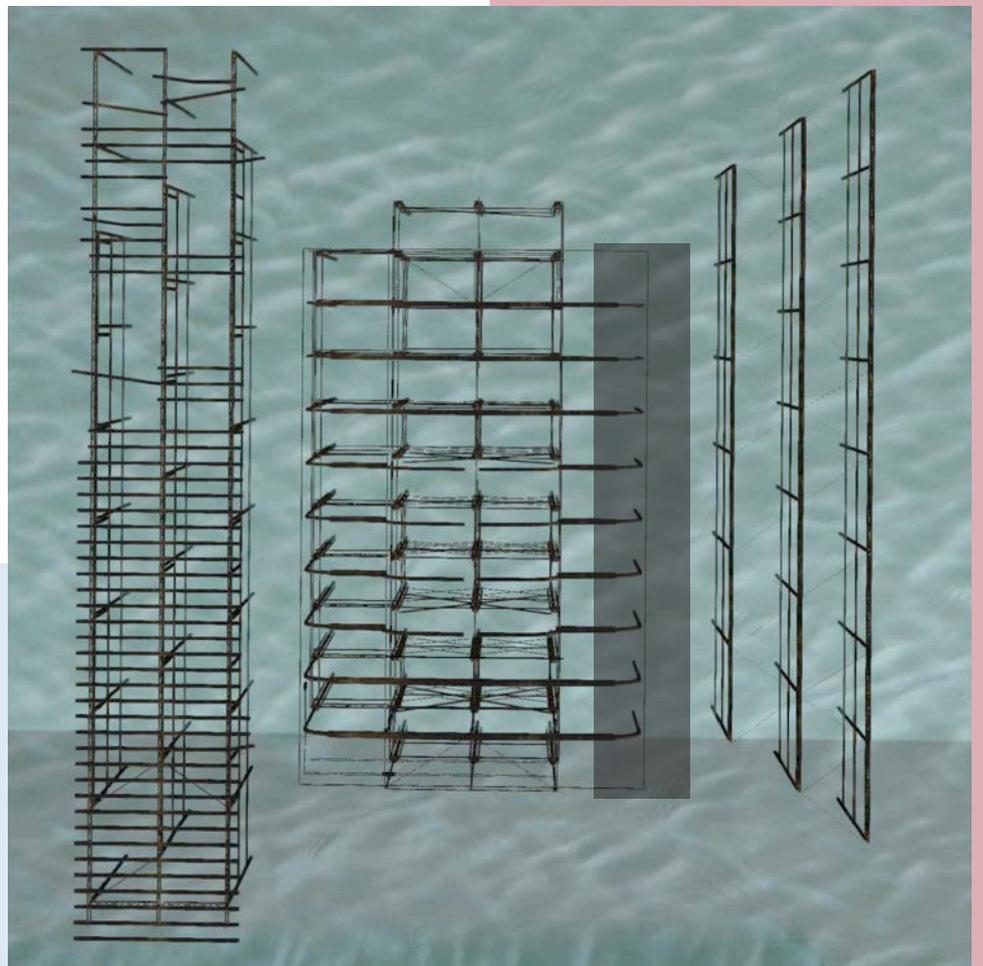
01.3

LOCATION/SITE

I've chosen to locate my pavilion on the old pier. My idea to reconstruct helped me dictate what part of the pier would be most suitable for my programme. After carefully analysing the remaining structure I've picked out an area which was missing the most important structural elements, the columns. My chosen area is located above the remains of the pier head on the east side of what once was a theater. The theaters frame is missing 8 support columns which give the structure stability. Right now the east side of the frame is hovering above the water so my plan is to reconstruct the columns and anchor it back to the sea bed as it suppose to be. At the moment the theater is anchored by 4 out of 5 rows of columns that anchor the structure to the sea bed.



Digi map of Brighton and Hove seafront with highlighted whole studios site which is West Pier and Regency Square.



3D model created by the whole studio.

01.3

LOCATION/SITE

The highlighted area in those photograph show my chosen location. There's 8 columns that hang over the water that are missing the anchoring columns.

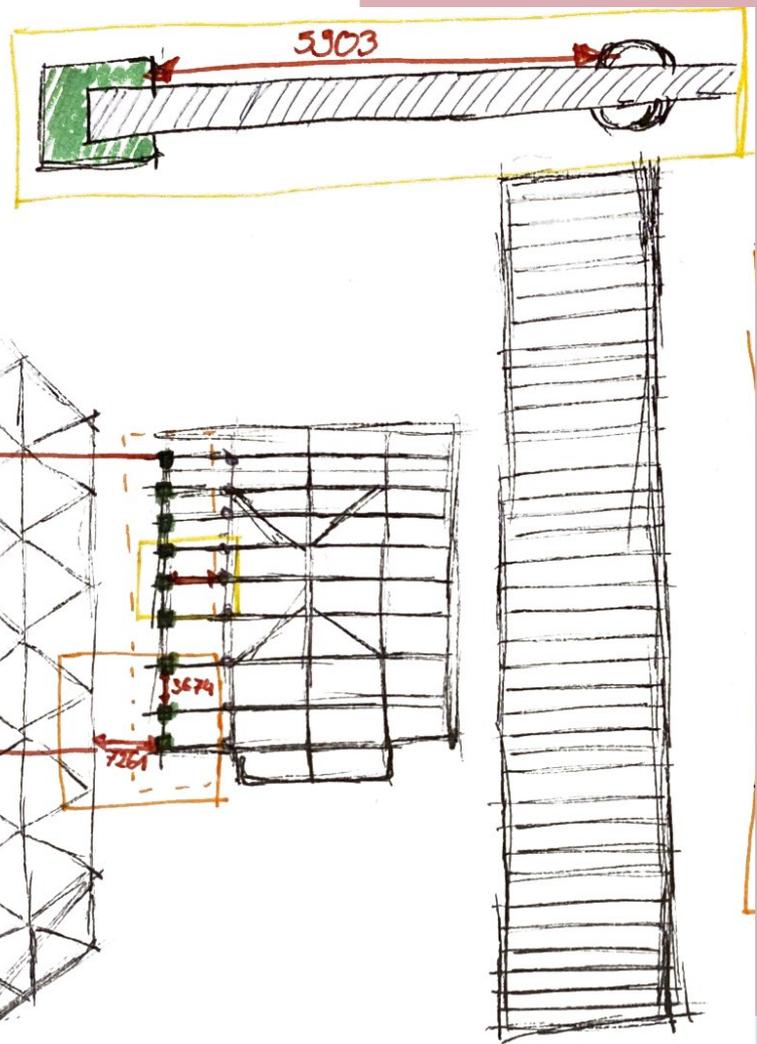
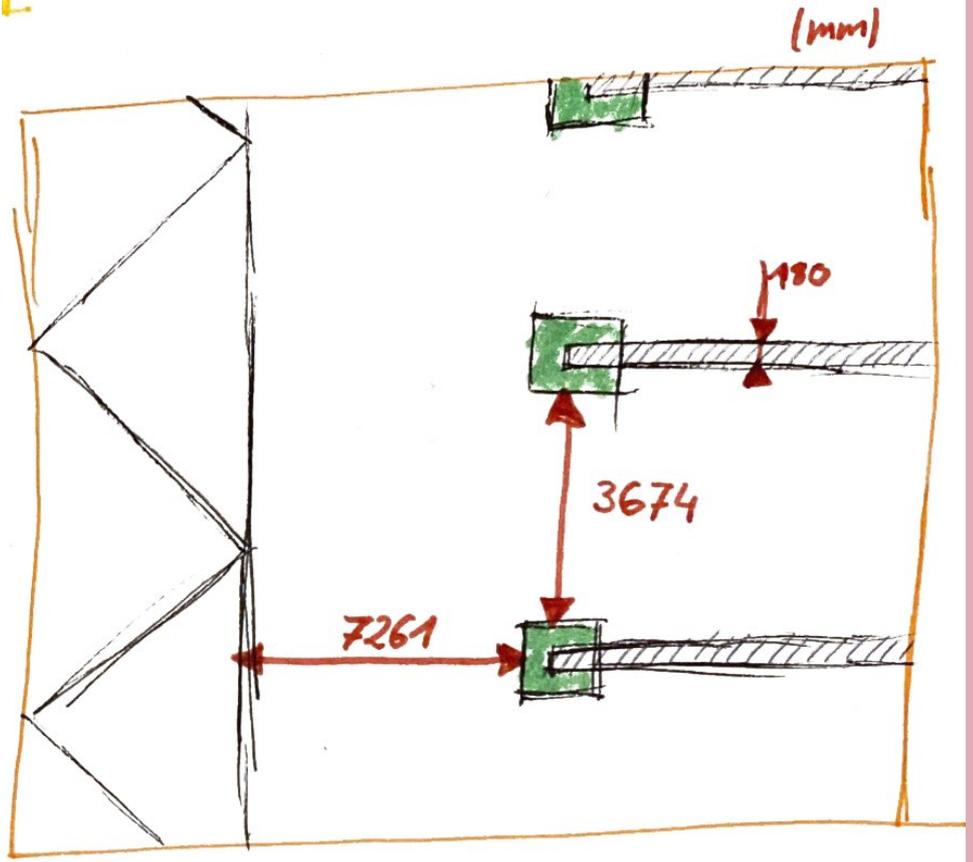
Both photographs face north towards the beach.



01.3

LOCATION/SITE - Measurements

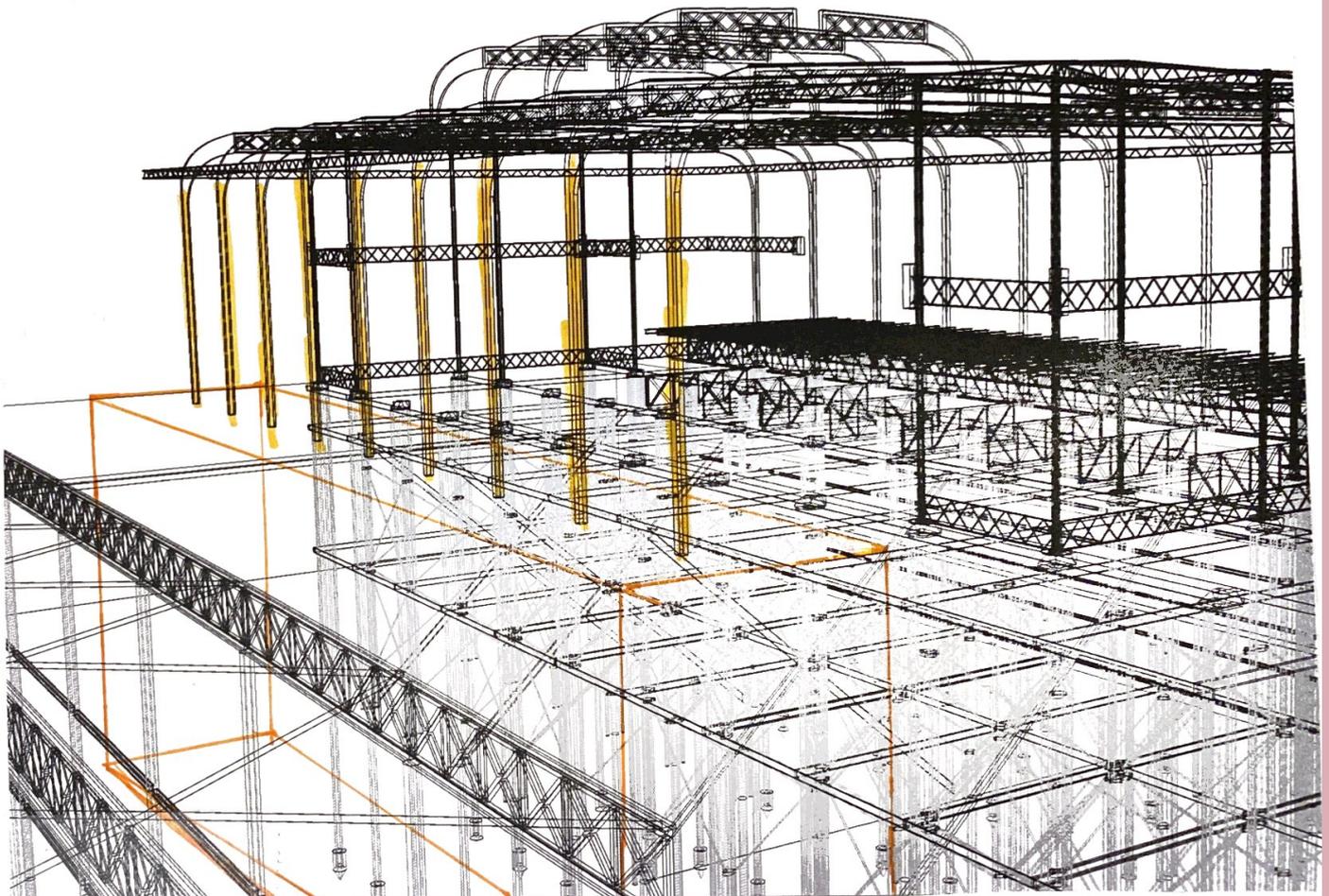
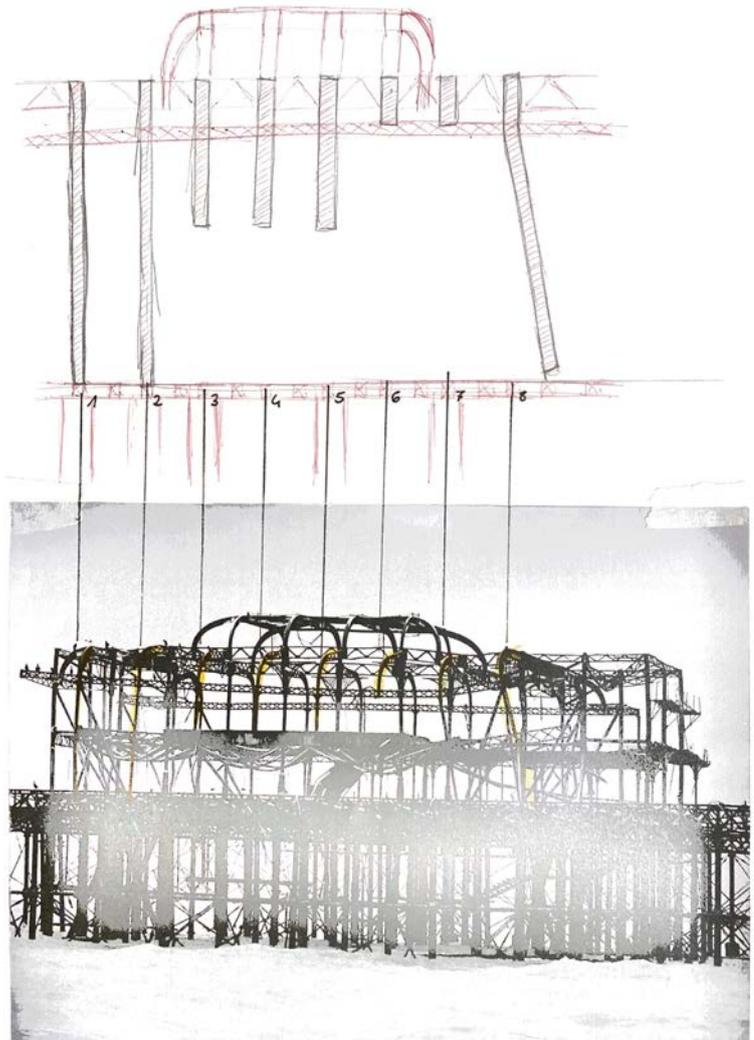
Those two sketches show a measured analysis of my location. Those sketches were produced so that I could gain a better understanding of the size of my location. It was a necessity for me so that I could draw a elevation, section and a plan of my site.



01.3

LOCATION/SITE - Analysis

During the careful analysis of my site I've discovered few errors in our studio 3D model of the pier that we created during semester one. The way I've checked the accuracy between our model and the actual structure was very simple. I've used the photographs that I took during our site visit. During our site visit I took a lot of photos which were very helpful for this analysis. While creating the 3D model I wasn't involved with the theater structure and I've never carefully checked if it was accurate. According to the 3D model there's 9 columns that run the length of the theatre. In reality there's 8 columns lengthwise. I've highlighted those columns with orange marker on the printed photograph and vectorworks model.



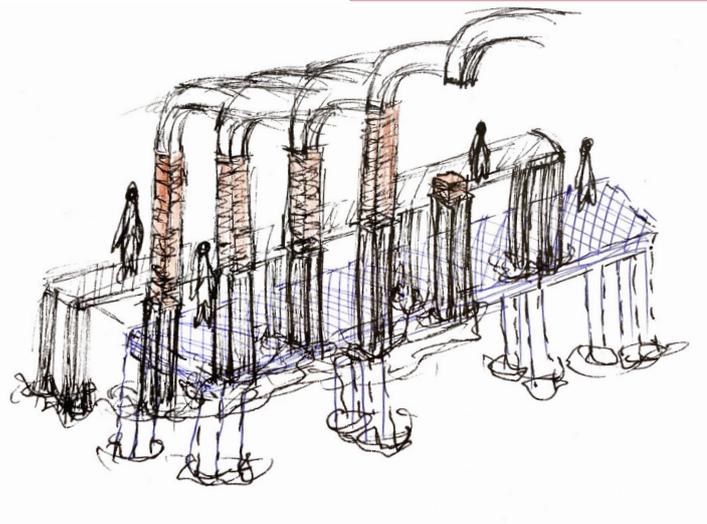
01.4

PROGRAMME ACTIVITY



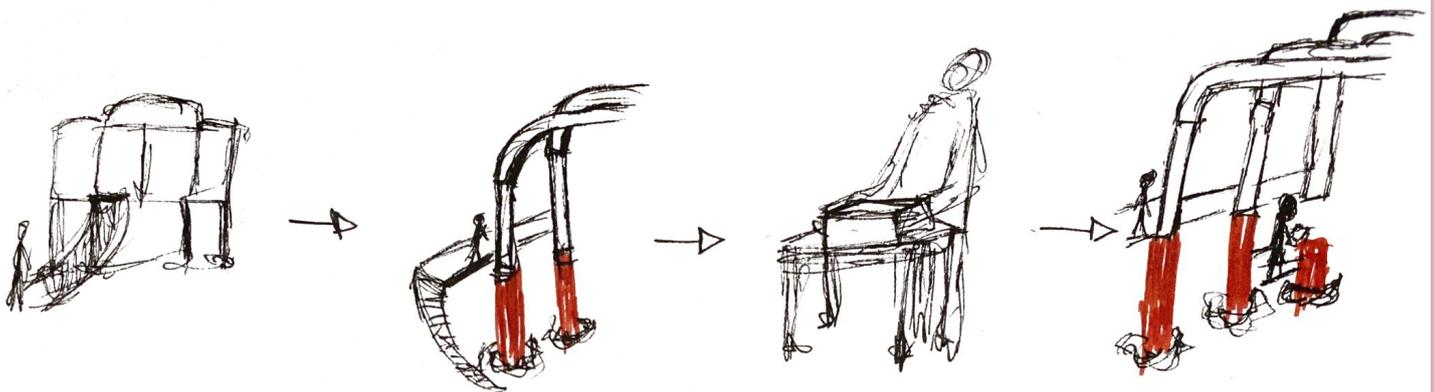
My activity is the reconstruction of the missing columns on the east side of the collapsed theatre. At this point I've started to alter my programme further and decided for the new reconstructed columns to have additional purpose. It won't just serve the purpose of supporting the structure but it will as well have a secondary function, for example, seating. The columns will become interactive sculptures that the people can enjoy. The columns could be used for exercise, as a rest point and providing information.

The earlier idea of visitor to take part in the reconstruction changed to an artist creating the sculptures while the visitor view the process and after completion they can interact with them. The workshop won't be a fixed space, instead it'll a device that can move around the main exhibition space, on all axis.



The new function of my pavilion described in a short paragraph:

Workshop space that can move around. Main space is the exhibition space. First access to the columns/exhibition space which allows the visitors to interact with the sculptural columns. It's technically one big space and the workshop is more of a device inside the pavilion that acts as a tool to help the artists reconstruct/create the sculptures.



01.4

PROGRAMME ACTIVITY - Making of the material

I thought of testing similar principle as I used in my semester 1 project. Briefly I looked at using same material and same shape of the brick to reconstruct the columns but I've discharged that idea very quickly as it limited my design and wouldn't allow me to create interactive sculptural columns. I've moved on with my design to use female artist as my catalyst and have one design one column each. This would create a diverse exhibition of interactive sculptures created by female artist to celebrate women in design industry.

MATERIAL MAKING - ACTIVITY



01.4

PROGRAMME ACTIVITY - Interactive sculptures precedent

TOTEMY, ALICJA BIAŁA & IWO BORKOWICZ, POZNAŃ, POLAND, 2019

Totemy, designed by designer Alicja Biała in collaboration with architect Iwo Borkowicz is an installation of nine-metre tall wooden towers were each tell a story about a different aspect of the effects of humans on the environment and our planet. The sculptures are supposed to visually show the data of the impact humans have on nature. There's 6 towers in total and they show the following data:

- Air pollution in Poland in comparison to other European countries
- Water usage in production of food
- Plastics afterlife
- Deforestation in Poland
- Marine and ocean fishers
- Population of wiled animals

All 6 sculptures have been hand painted by the artist Alicja Biała. The colours and patterns on the poles respond and reflect the research findings, they show the statistics of the condition of our environment. The bright colours draw attention of the public whom is encouraged to interact with the sculptures. All the poles have a QR code which can be scanned with a help of a smart phone and learn more information of the specific condition of our environment.

I think this installation easily show the often very confusing to understand and read statistics for an average person. You can quickly tell the proportions and scale of each statistic as well identify the negative and positive effect they have on our planet. The artist used colours that people already identify as positive or negative like red for bad and green for good.



Image source: Alicja Biała, Iwo Borkowicz and Dominik Pazdzior ¹⁶

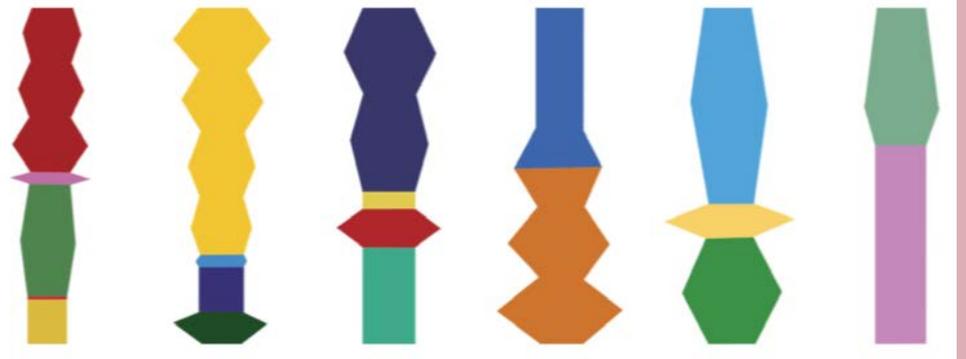


Image source: Totemy.org website ¹⁷



Image source: Alicja Biała, Iwo Borkowicz and Dominik Pazdzior ¹⁸

01.4

PROGRAMME ACTIVITY - Interactive sculptures precedent

"The shape of this totem pole illustrates what has happened to the plastic produced throughout history." -Totemy.org

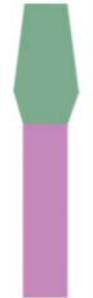
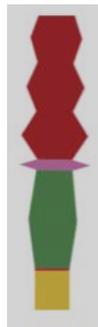


DISPOSED OF

RECYCLED

BURNT

IN USE



21

I've picked three sculptures to show the artists thinking behind the visualisation of the research/statistics. I love the simplicity of the visuals. They're draw the viewers attention yet they're easy to read which isn't always a case when it comes to serious environmental statistics.

"This totem pole illustrates the problem of high air pollution in Poland. It also provides a comparison to the air pollution situation in other selected European countries." -Totemy.org



POLAND - 76%

BELGIUM - 5,5%

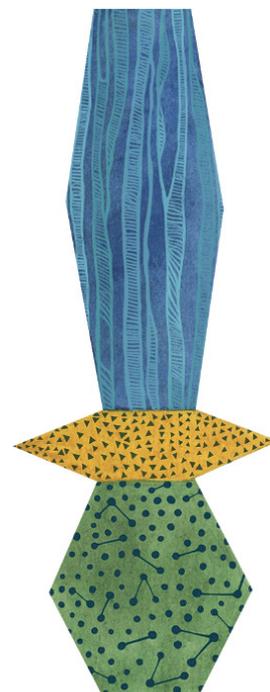
ITALY - 52%

SWEDEN - 1%

SPAIN - 21%

19

"The shape of this totem pole is based on reports on the condition of marine and ocean fisheries in the world." -Totemy.org



OVEREXPLOITED FISHERIES

HEALTHY FISHERIES

FISHERIES EXPLOITED TO EXCESS

22

01.4

PROGRAMME ACTIVITY - Interactive sculptures precedent

TIGER AND TURTLE ,MUTTER AND ULRICH GENTH, DUISBURG, GERMANY, 2011

Tiger and Turtle - Magic Mountain is a sculpture that resembles a roller coaster, it's located on the highest point in the Angerpark park, in Duisburg. The sculpture allows the visitors to climb and walk on it. It grants beautiful views of the West Ruhr. The elaborately curving and swooping staircase takes you on a unique exploration of the sculpture and the surrounding scenery. It has access points where it touches the ground, allowing visitors to climb and gives you the unique sensation of a roller coaster ride. The interactive sculpture is completely made out of steel.

I like this precedent as it's fully made out of one material, similar to our site which is fully made out of cast iron. I like how you can create very organic looking structure with many curves using only one material which is considered to be very rigid material that can't be easily manipulated. This is a good example of a structure that looks like it's hanging in the air.



Image source: Heike Mutter and Ulrich Genth ²³



Image source: Werner Hannappel ²⁴

01.4

PROGRAMME ACTIVITY - Interactive sculptures precedent

REFLECTED VISION, KENNY MUNRO, EXETER, UK, 2015

Reflected vision is a installation by a Scottish artist Kenny Munro. The artist is a big Bill Douglas admirer and was inspired by the artifacts inside Bill Douglas Cinema Museum. Artist interest laid in optical illusions and reflections. His aim was to create a sculpture that could create various reflections. The sculpture was created with stainless steel as a frame and mirrored stainless steel sheets act as mirrors. The sculpture allows visitors to engage and interact with reflections of the surroundings. People can interact with reflections of nature and of themselves and their families.

This is another precedent that is created with only one material. Instead of using two materials the artists chose a material that can have different finishes. I looked at this precedent as it's something I plan on designing for my pavilion interactive sculptures that serve two purposes, reconstruction of the missing columns giving the whole structure strength and stability as well as having additional new function and can be exhibit.



01.5

SPATIAL INVESTIGATION

The spatial qualities that I've previously identified for my pavilion had changed at this stage. The pavilion will be tall as the workshop will move on all the axis, up and down and to the sides. The columns are 120 meters tall. The workshop will travel through multiple levels. The whole pavilion will be long and tall. Workshop will be sheltered from the natural elements which allows the artist to work without interruptions. I want the workshop to be made out of material that allows the visitors to view the artist while working on the columns.

New identified spatial requirements:

- Big open exhibition space
- Mobile workshop



Secret studio, Fernando Abellanas, Valencia, Spain, 2017 Image source: Jose Manuel Pedrajas ²⁷



Hanging Platform, Pia Mendaro, Madrid, Spain, 2020 Image source: Manuel Ocaña ²⁸

01.6

ENVIRONMENTAL INVESTIGATION

Workshop will require a lot of light to allow the artist to work, same thing applies to the exhibition space, both of them have to be well lit. I want to bring in as much natural light as possible. It should be easily archived as I plan for my pavilion to be an open space rather than boxing it. It'll be more of a frame to which the workshop will be attached and move freely around inside this frame. The workshop will be an internal space within the open exhibition space. I want for the columns/sculptures to be seen from afar as you walk towards them from the beach. Some of the sculpture will provide small shelter from the elements. I haven't thought of the design of the sculptures yet, I intend to look at collective Part V to find artists which I'll pick to inspire the design of the columns.

House NA, Sou Fujimoto Architects, Tokyo, Japan, 2012 Image source: Iwan Baan ²⁹



International Criminal Court, Schmidt Hammer Lassen Architects, The Hague, Netherlands, 2010 Image source: Schmidt Hammer Lassen Architects ³⁰



Shanghai West Bund Biennale, Schmidt Hammer Lassen Architects, Shanghai, China, 2013 Image source: Schmidt Hammer Lassen Architects ³¹

01.7

USER & OTHER

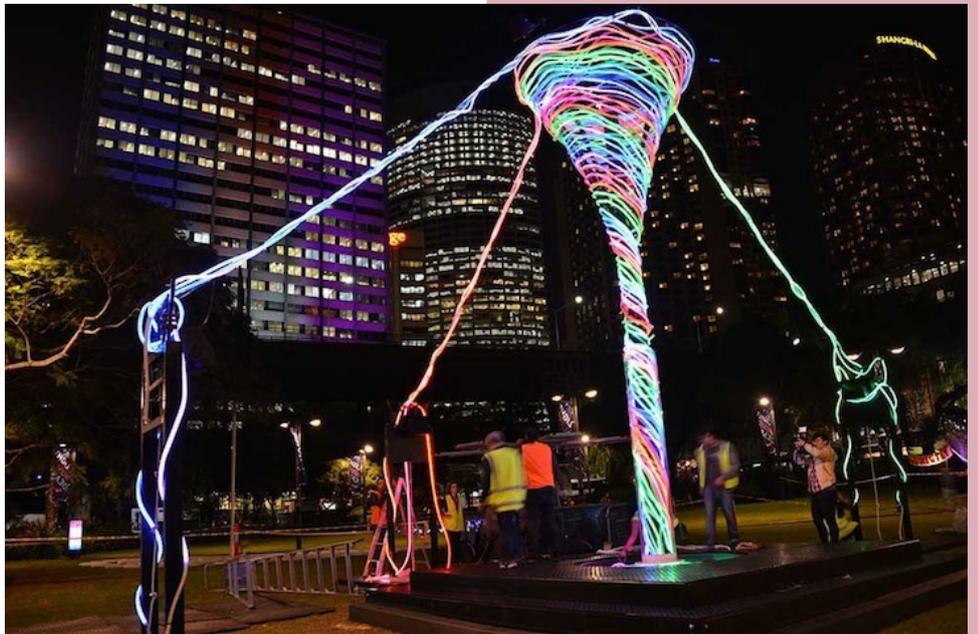
User: Anyone can use the exhibition space and interact with the sculptures. Some of them will be adapted to be suitable for kids and other for adults only. I make sure to offer variety so that anyone can interact with at least one column.

Another example of an interactive installation by amigo & amigo called Ray, is a great example of a design that considers all different users.

Other: Materiality is an important part of my design of the pavilion and the sculptures. I'm looking for a material that would naturally dissolve after the festival so that the pavilion will be dismantled but the columns/sculptures will slowly dissolve/decay just like the rest of the structure of the pier.

One example of a dissolving material that can be used in construction is rock salt. An amazing project created by studio stpmj.

"The project, 'Dissolving Arch' is a weather-specific installation located in Jeju Island. The island has a long rainy and humid period in summer. The structure is designed to react on rain and humid, exploring constituent of masonry and reflecting time of weather changes. The arch is constructed by stacking rock salt units (200mm x 100mm x 50mm) with cement mortar, and the salt bricks get eroded by water exposure, leaving a mortar skeleton in the end." - studio stpmj



Ray, amigo & amigo, Sydney, Australia, 2014 Image source: amigo & amigo ³²



Dissolving Arch, stpmj, Osulloc Tea Museum, Jeju, Korea, 2017 Image source: EH(Kyoungtae Kim) + stpmj ³³



Dissolving Arch, stpmj, Osulloc Tea Museum, Jeju, Korea, 2017 Image source: EH(Kyoungtae Kim) + stpmj ³⁴

Part W

Part W collective is an action group consisting of only women working across architecture and design, infrastructure and construction and campaigning for gender parity across the built environment. Part W campaigns for gender equality and empowering women within design and architectural industry. They support women from diverse backgrounds, ethnicities, across generations and with different experiences.

Part of their manifesto:

"We are driven by a desire to see design education being non-discriminatory, supportive and accessible to all.

We want to see built projects being instigated, planned and delivered by both women and men equally and fairly.

We are committed to pushing for flexible working environments that enable women to do their job, free from being intimidated or demoralised.

We point out examples of gender imbalance in the representation of women within our industry and in the media."

Part W is a collective of engaged and proactive women working in design education, architecture, planning, engineering, policy, infrastructure and sustainability.

Founded by Zoë Berman in 2018, the intergenerational collective is formed by women from diverse backgrounds who are working together to call time on gender inequality, in all its forms, in our built environment.

The group is Co-Chaired by architect Alice Brownfield.

Members include:

Christine Murray, Dr. Harriet Harriss, Hilary Satchwell, Kelly Clark, Sarah Castle, Sarah Wigglesworth, Tahera Rouf, Yemi Aladerun, Sarah Ackland, Renee Searle and friends.



35

01.9

SYSMAT PRECEDENT EXPLORATION

FRAC NORD-PAS DE CALAIS, LACATON & VASSAL, DUNKIRK, FRANCE, 2013

The FRAC Nord-Pas de Calais is a gallery space that's located in Dunkirk, France. It's been redeveloped by Lacaton & Vassal architects. It's a space used to showcase various collections of contemporary art.

The gallery is located on the site of Dunkerque port in an old boat warehouse called Halle AP2. The halle AP2 is a singular building which was built in 1949. Its internal volume is immense, bright and impressive.

The concept for this project was to keep the big halle entirely untouched. To achieve this concept, the project created a double of the hall, of the same dimension, attached to the existing building, on the side which faces the sea. The new building juxtaposes delicately without competing nor fading. The duplication is the attentive response to the identity of the halle.

Under a light and bioclimatic envelope, a prefabricated and efficient structure determines free, flexible and evolutionary platforms, with few constraints, fit to the needs of the program. The transparency of the skin allows to see the background vision of the opaque volume of the artworks reserves.

The public footbridge (previously planned along the facade) which crosses the building becomes a covered street entering the halle and the internal facade of the FRAC building.



01.9

SYSMAT PRECEDENT EXPLORATION

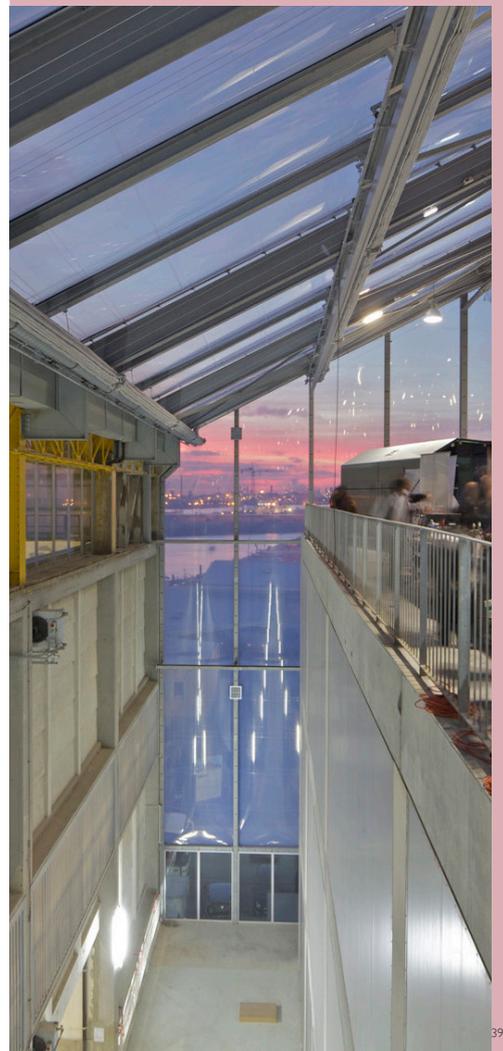
The halle AP2 remained a completely free space, which can work either with the FRAC, in extension of its activities, (exceptional temporary exhibitions, creation of large scale works, particular handlings) or independently to welcome public events (concert, fairs, shows, circus, sport) and which enriches the possibilities of the area. The functioning of each of the buildings is separated, or combined.

The project creates an ambitious public resource, of flexible capacity, which allows work at several scales from everyday exhibitions to large-scale artistic events, of regional but also European and international resonance, which consolidates the redevelopment of the port of Dunkerque.

The new structure extends from the side of the renovated warehouse and provides an additional 9,357 square metres of floor space alongside the 1,953 square metres of usable space inside halle AP2.

A translucent skin of corrugated polycarbonate covers most of the new structure's exterior and surrounds a solid concrete core in which a collection of over 1,500 artworks are stored in protective conditions.

On top of the concrete core is an open event space that sits beneath the gabled steel framework, which is fitted with clear EFTE pillows to allow a view of the port and the nearby town.



01.9

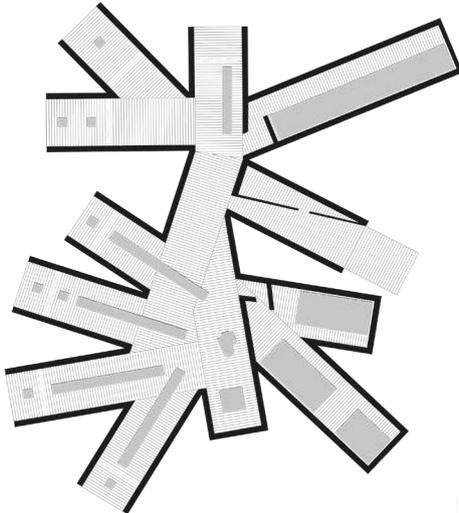
SYSMAT PRECEDENT EXPLORATION

STUDIO EAST DINING, CARMODY GROARKE, STRATFORD, EAST LONDON, 2010

During the summer of 2010, Studio East Dining was built on top of a 35m high multi-storey car park within the live construction site of a major new commercial mixed development in Stratford, East London.

The temporary pavilion provided a unique elevated vantage-point across London's 2012 Olympic site. A cluster of interlocking timber-lined rooms sheltered by angled translucent roofs, formed a large, singular restaurant space, allowing up to one hundred and forty guests to enjoy an intimate dining experience at communal tables whose orientation were aligned to key views of London's emerging skyline.

The project was designed and built within ten weeks from initial briefing to opening night. With a life-span of only three weeks, the 800m² lightweight structure was constructed with materials borrowed from the existing construction site including scaffolding boards, scaffolding poles and an industrial grade heat retractable polyethylene roof membrane. All building materials were selected for their ability to be 100% recycled following the closure of the restaurant.



01.9

SYSMAT PRECEDENT EXPLORATION

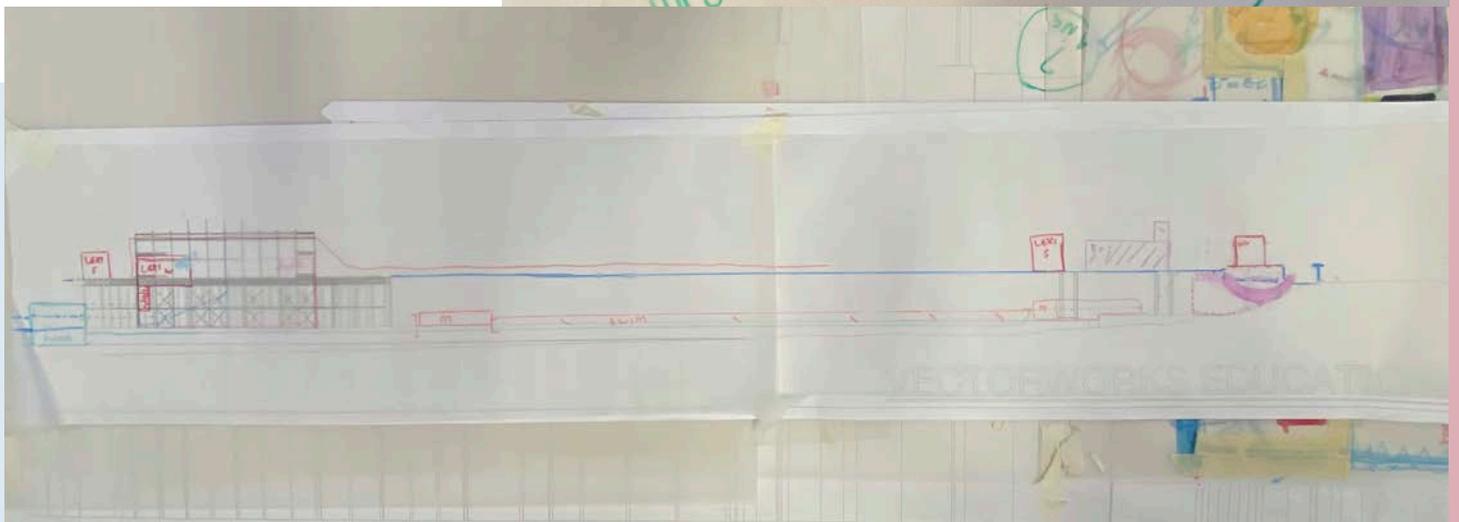


All images on this page by Studio Carmody Groarke

01.10

FESTIVALS INFRASTRUCTURE

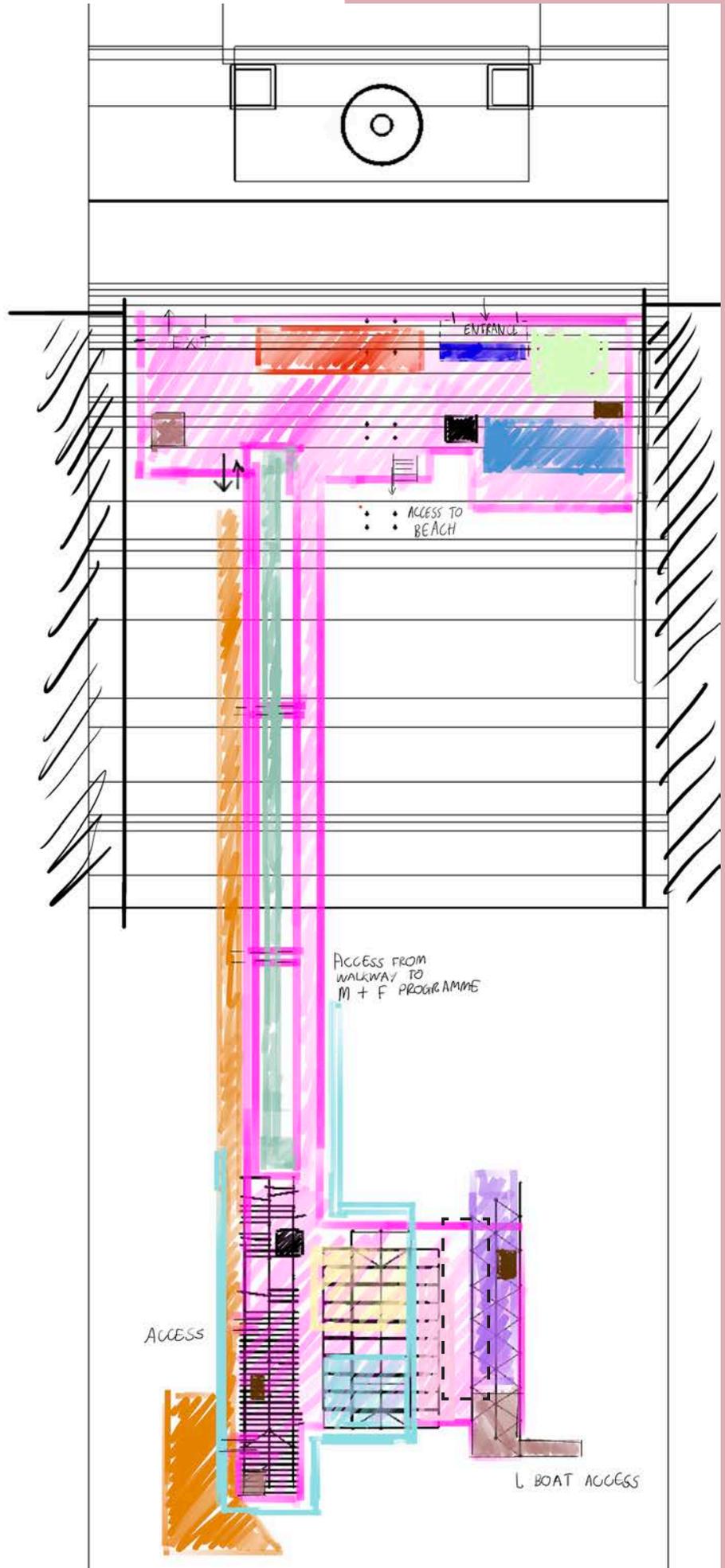
Infrastructure workshop helped us allocate space for each person in our festival group. We haven't struggled while picking our desired location whether on the beach or pier as everyone wanted to occupy different part of our site. After everyone got allocated on our site, we've started to brainstorm ideas for the infrastructure of the festival. Everyone took part in deciding on the connections between the pavilions and the connection of the pier to the beach. Eventually we've decided to create a decking/bridge that's going to connect the land with the piers structure. We've placed the decking off-centre so that the viewing of the piers structure from the beach will remain unobstructed. We've chose to create a platform on the beach which will level the ground and allow everyone to access our festival. During the workshop as a whole group we've discussed and chose the entrance and exit to our festival, toilets, information and tickets point.



01.10

FESTIVALS INFRASTRUCTURE

- LEXI
- ANGELIKA
- MIM
- FIONA
- MARY
- ANGELA
- MAGDA
- HARRY
- RAY
- SKYE
- DECKING
- TOILETS
- INFORMATION
- TICKET POINT

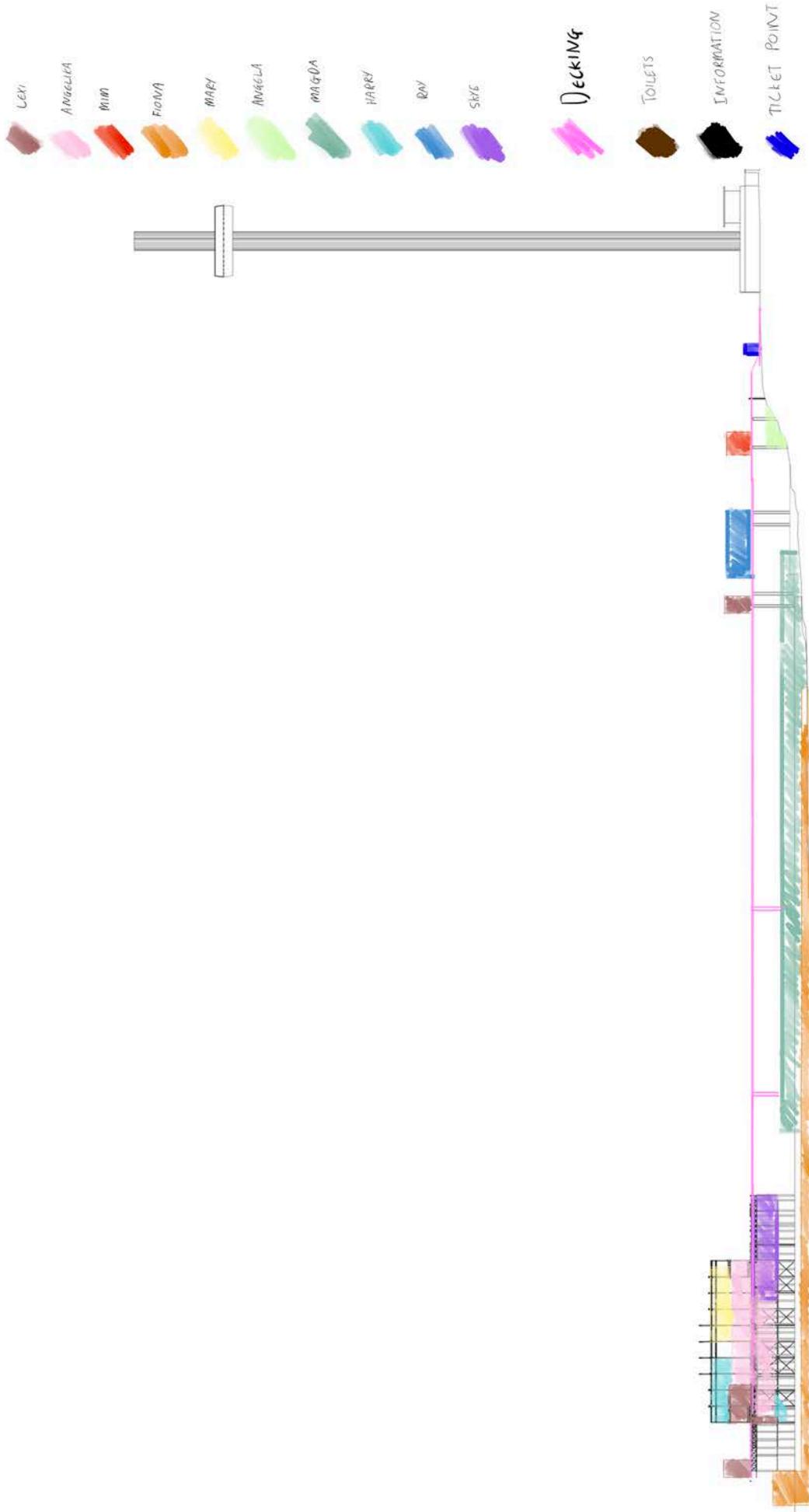


A clearer illustration created by Lexi of our outcome from the day long workshop. We chose to use different colour for every person to highlight their location.

FESTIVAL OF BRITAIN

01.10

FESTIVALS INFRASTRUCTURE



FESTIVAL OF

01.11

FESTIVALS PRECEDENT

THE VENICE BIENNALE

The Venice Biennale is a big international exhibition of contemporary art. The Biennale is being held in Venice, Italy. It first started in 1895, back then it was an exhibition of Italian art celebrating the silver anniversary of the Italian king Umberto I and Margherita of Savoy. Few years later it became an international exhibition where other countries would travel to Venice to exhibit their art. Fairly recently, in 2009 the Venice Biennale changed name to Art Biennale. There's an organisation, The Biennale Foundation that organizes all the exhibitions, the Art Biennale in Venice, the Architecture Biennale in Venice, the Cinema Biennale in Venice, the Dance Biennale in Venice, the Music Biennale in Venice, and the Theatre Biennale in Venice. The Art and Architecture Biennale are the most prestigious Biennale exhibitions in the world. The Art and Architecture Biennale is held every 2 years and lasts for 6 months while the other exhibitions happen every year and only last from 10 days to 2 weeks. Every Biennale that happens has a theme to which the artist, designers or architects have to respond to through the design of their exhibitions. The exhibitions mainly take place in Giardini and at the Arsenale. The Giardini is a park located on the Eastern edge of Venice and is the original site for the exhibition since 1895. Since then 29 nations have built their permanent pavilions on the grounds of the park. The Arsenale is located North-East of Venice. The Arsenale hosts pavilions of 23 nations.

The Biennale is an exhibition where the best of the best exhibit, each country wants to show and promote their finest forms of art. Not everyone that wants to can exhibit which makes it a competitive and luxurious exhibition.



The Nordic Pavilion, Sverre Fehn, Giardini, Venice, 1962 Image source: Åke Eson Lindman ⁴⁷



Chromo sapiens Icelandic Pavilion, hrafnhildur arnardóttir / shoplifter, Giudecca, Venice, 2019 Image source: ugo carmeni ⁴⁸



Building Bridges, Venice Pavilion, Lorenzo Quinn, Castello District, Venice, 2019 Image source: Lorenzo Quinn ⁴⁹

01.11

FESTIVALS PRECEDENT

BURNING MAN

Burning Man is an annual, 9 day long gathering that celebrates all forms of art, design and music. It's held on a desert in Nevada, United States. Each year an entire fully functioning city is build on the desert. The city is called Black Rock City. Whole event is fully run by it's participants. There's no money exchange at the festival. You can't purchase a meal or a drink. You've to bring your own provision for the 9 day long stay on the desert. Participants are encouraged to exchange/gift items that they brought with them as a form of payment rather than money. Some attendees offer services, like yoga lessons or performances as a form of payment. Participants of the festival have to bring their own tents, RVs or cars were they're stay during the festival. Anyone can attend the festival, it's open for all, women, men and kids. Each year the organisation of the city looks the same, the tents are located in a semi circle with the Burning Man statue in the centre of it. Other half of the semi circle, opposite the accommodation and other buildings like a hospital, is keep unoccupied. That's were all the art installations are places.

Burning Man is a different type of festival which happens in very challenging conditions. While everyone is welcome to attend any people that love unique intellectual art usually attends. Burning Man has a long history and on isn't just an annual festival. It's a unique and distinctive culture that's encourage to follow the 10 principals which were written by the co-founder of the festival, Larry Harvey. The 10 principals are a reflection of the community's ethos and culture. The 10 principal are: Radical Inclusion, Gifting, Decommodification, Radical Self-reliance, Radical Self-expression, Communal Effort, Civic Responsibility, Leaving No Trace, Participation and Immediacy.



Step Forward, Miguel Angel Martin Bordera, Burning Man, 2017 Image source: Scott London ⁵⁰



Man Pavilion, Larry Harvey and Don Clarke, Burning Man, 2014 Image source: Andrew Wyatt ⁵¹



Aerial view of the Black Rock City Image source: weraveyou.com ⁵²

01.11

FESTIVALS PRECEDENT

GLASTONBURY

Glastonbury is a largest greenfield festival of music and contemporary performing arts in the world which take place in Pilton, Somerset, England. It's a 5 day long festival. It's almost an annual festival, though it doesn't always take place every year. The festival it's mainly known as a music festival. It first started in 1970 and was a Blues festival. That has changed during the years and became more a festival of performing arts. The festival take place on an open field which means that every that the event happens an entire town is build up to accommodate it. The premisses of the site is divided by areas. It's organised this way to allow everyone to attend the festival. There are more luxurious accommodations, budget ones and family/kid friendly ones. Anyone can find place that best works for them. The site of the festival is massive. It's spread across 1,200 acres and has a perimeter fence of about 8 1/2 miles.

This is a more relaxed festival which you attend to have fun and party. There's no strict rules that has to be followed, you're expected to have a good time with your fiends while enjoying your favourite artist. To not get bored during the acts there's lots of fun contemporary art and theatrical performances. There's plenty of entertainment you definitely wont get bored.



Photograph from the air of The Glastonbury site in 2017 Image source: Ben Birchall/PA Archive/PA Images ⁵³



The Pyramid Stage, Glastonbury Festival, Worthy Farm, 2018 Image source: PA images ⁵⁴



Foads performing at The Park Stage, Glastonbury, 2019 Image source: Jim Dyson/Getty Images ⁵⁵

Chapter 02

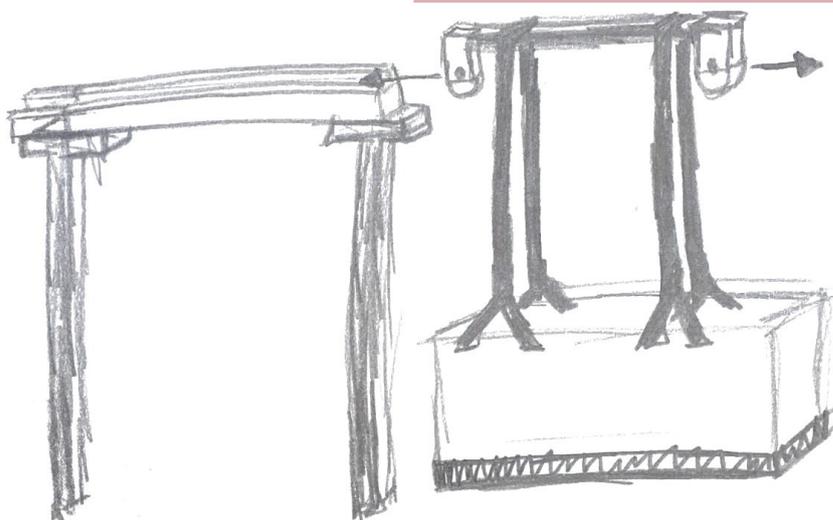
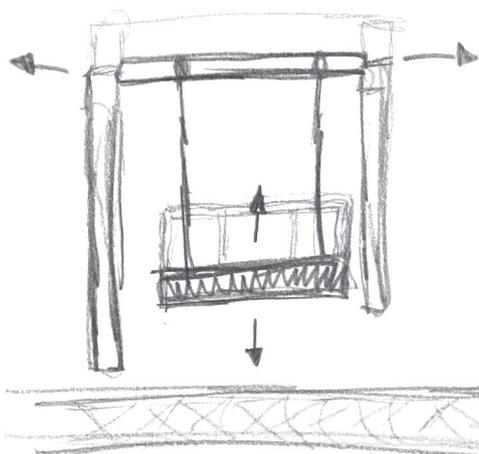
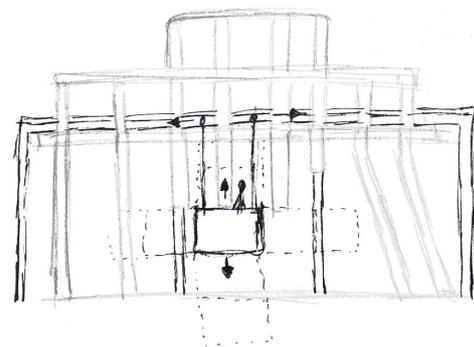
PART I

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02.3 SysMat investigation54

02.1

SPATIAL AGENCY - Iteration 1

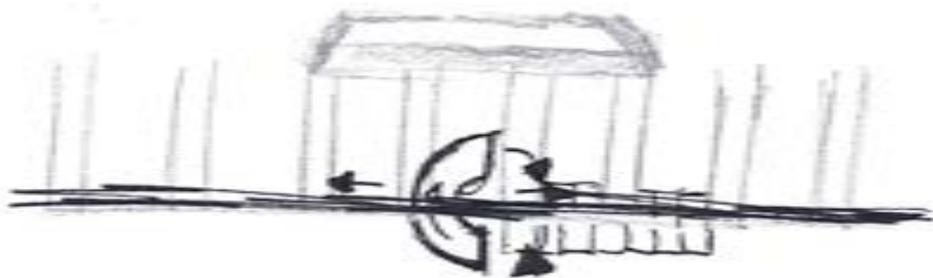
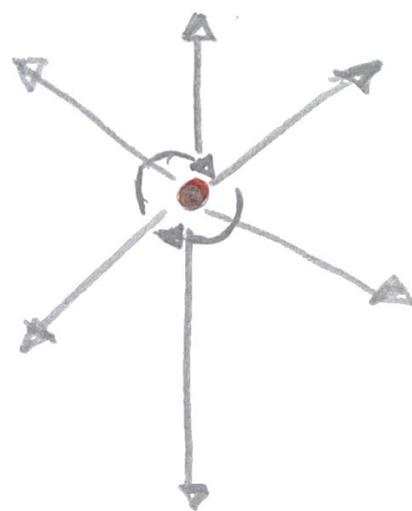
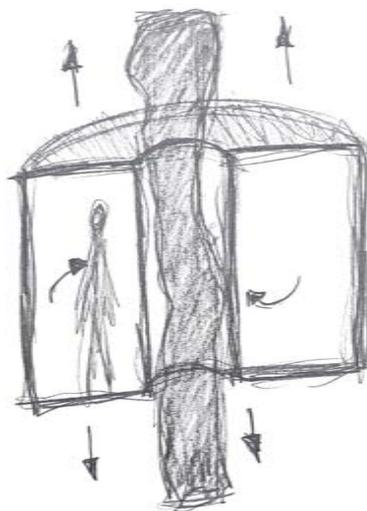
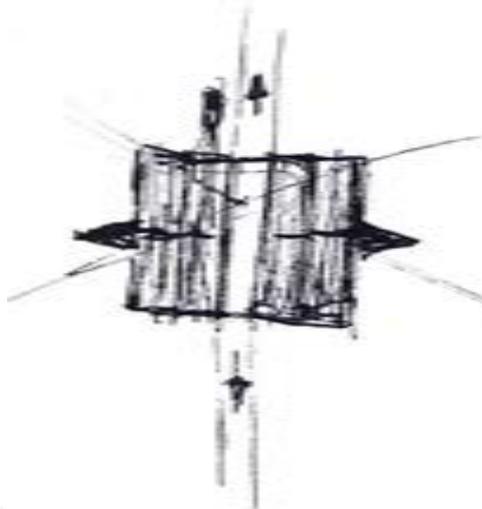
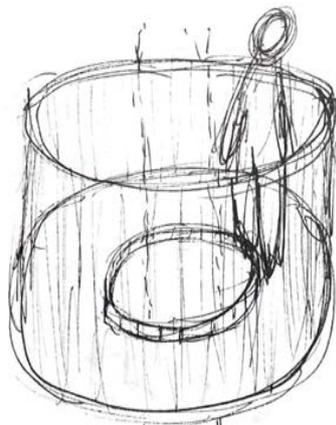
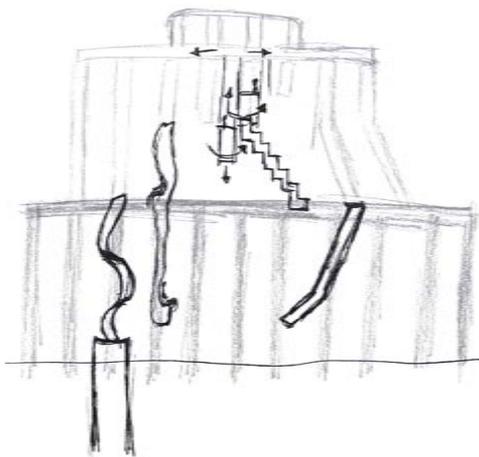
For my spacial agency chapter I've started sketching different iteration of my pavilion based on the research I've done in the previous chapter. This is the first iteration which is based around the mobile workshop that moves from side to side and up and down. In this iteration I've used the simple mechanism of a suspended platform which moves the workshop up and down. In addition to this I've tried to implement track on which the workshop would move from side to side inside the pavilion.



02.1

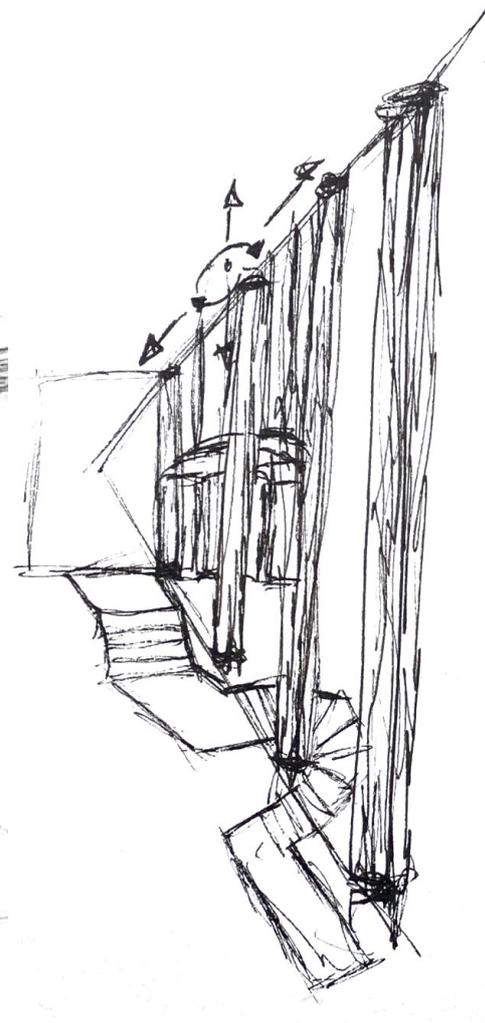
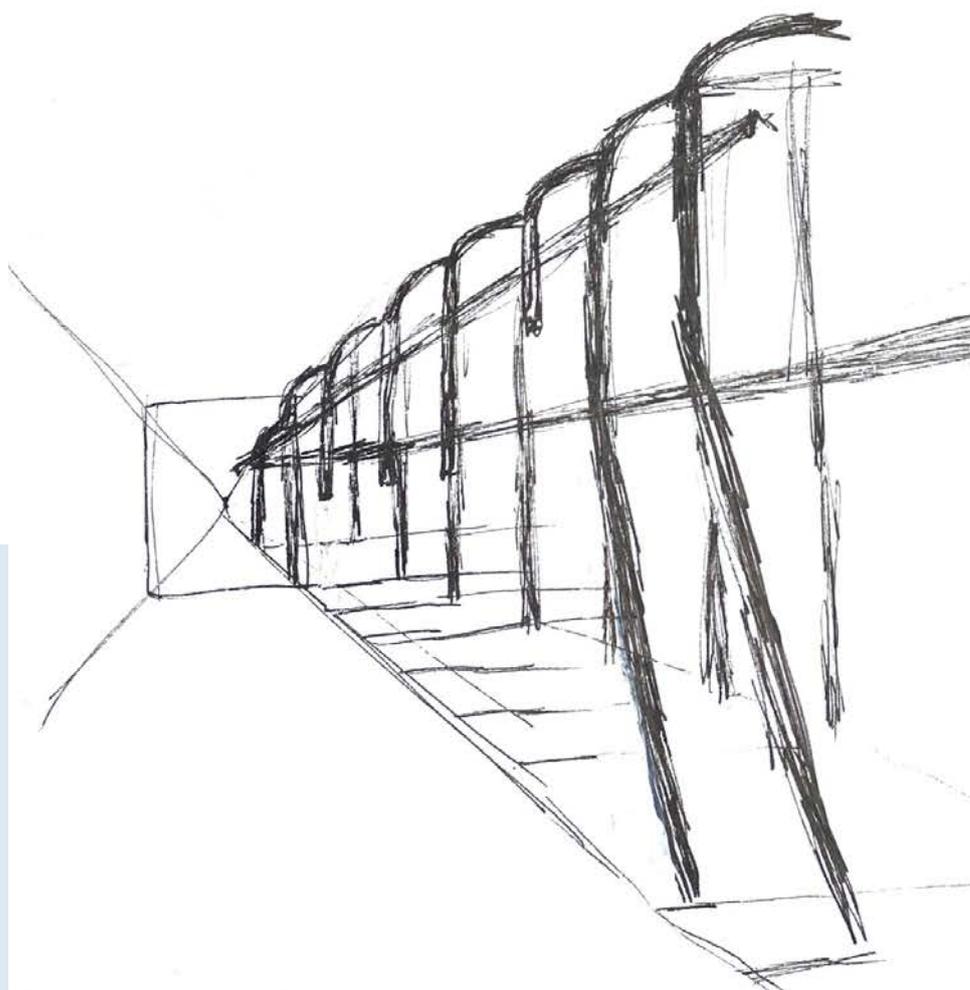
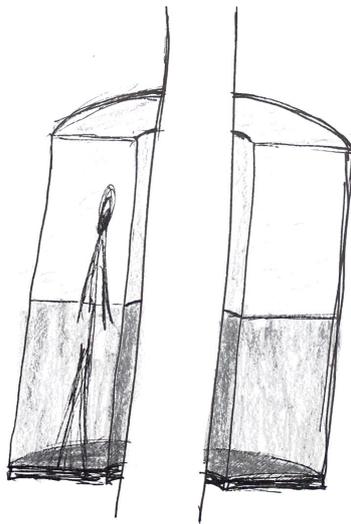
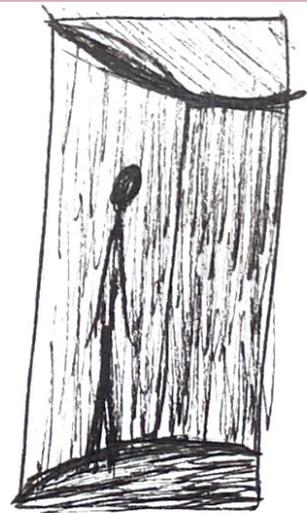
SPATIAL AGENCY - Iteration 2

In the second iteration I've explored a different shape of the workshop. In this iteration I wanted to create a workshop that hugs the columns rather than being a rectangular suspended platform. In this design I've kept the track that would run lengthwise through the pavilion from which the a semi circle was suspended. The workshop would move on all axis. It moves along the pavilion on the track and can be moves up and down. Beside that it has an additional mechanism which allows the workshop to spin around the column while working on the sculpture.



02.1

SPATIAL AGENCY - Iteration 2

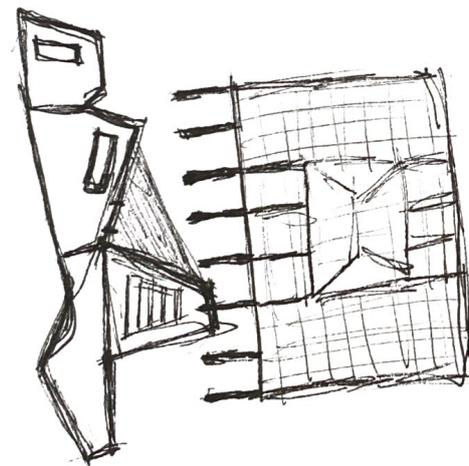


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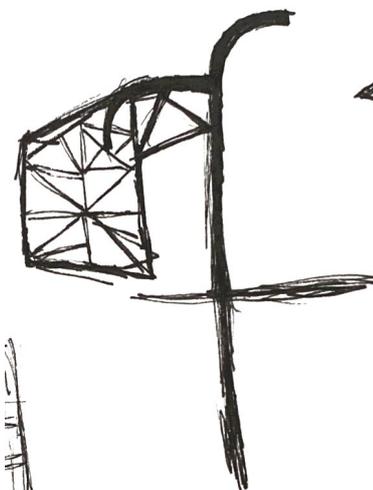
SPATIAL AGENCY - Iteration 3

In the third iteration I've thought of completely different idea for the design of my pavilion. In this iteration I wanted to fish out the pieces of iron that rest on the seabed and weld them back to the piers structure. System for this iteration would've been fishing out original cast iron elements that has collapsed into the water and rest on the seafloor. To archive that I planned to use a crane that would've been attached to the existing frame of the pier and the crane would be used to excavate broken off iron elements from the sea bed . This iteration idea came to me after I've started to look at environmental friendly material. It felt like a great solution to use a material that already exist on site rather than brining in brand new product.

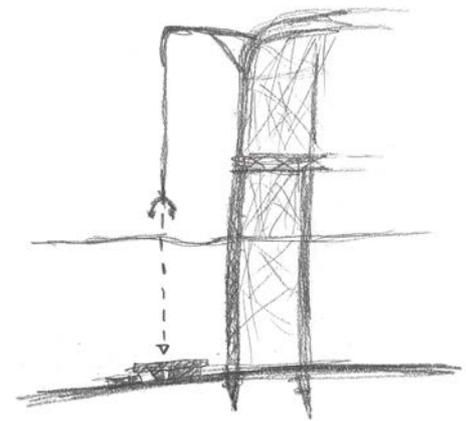
This iteration hasn't been altered by my any further as I couldn't test the material to see it was reusable after being in the water for couple of years. The issues that I would most likely run into was, crumbling of the material, corrosion which wouldn't allow for the iron to be welded together.



Plan



Elevation



Plan

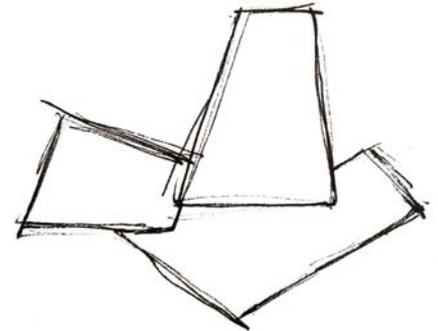
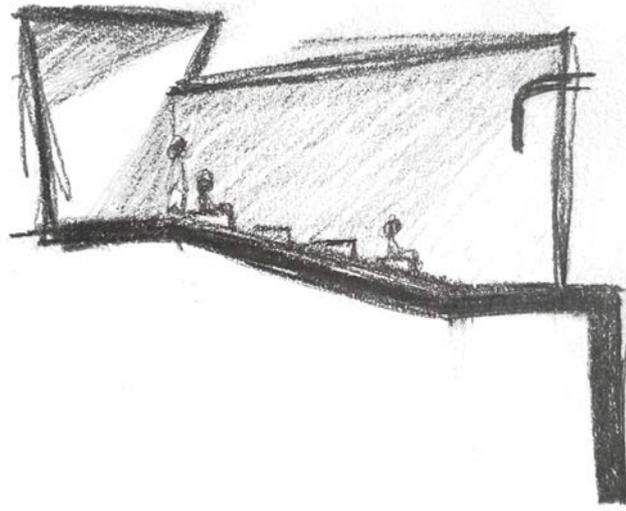
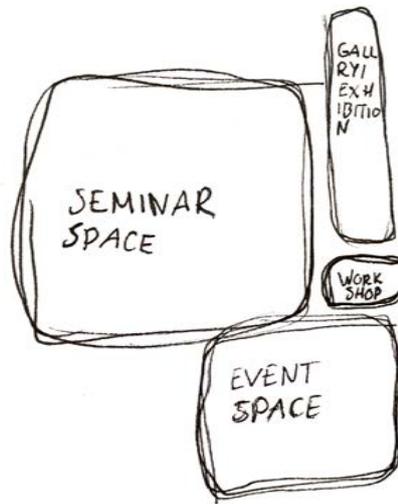


Section

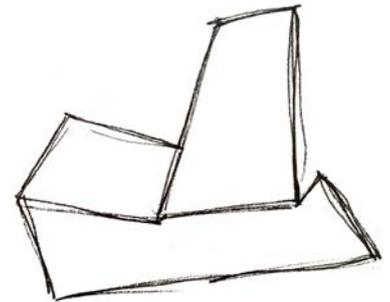
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SPATIAL AGENCY - Iteration 4

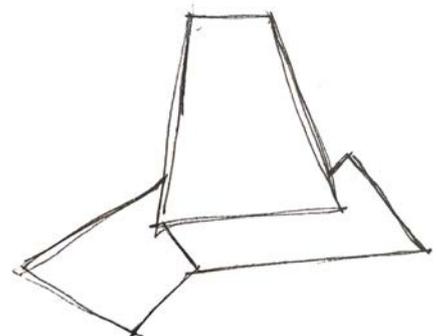
In the iteration number 4 I've change the whole concept of the design of my pavilion. The reason I've done it was because I've struggled to think of a system to anchor the pavilion. My initial concept was to create additional columns which would support the floor of the pavilion. I didn't like that idea as I envisioned the pavilion to feel light as if it float in the air. This lead me to look into cantilevered structures. Using a cantilever in my design would allow me to create a floating structure that would be attached to the piers structure. The pavilion would me made out of steel frame which will be attached to the existing piers structure with the help of welding and brackets which will be bolted so that the pavilion will be hanging of the pier. The pavilion will be a parasitic structure and the pier will be a host. The substructure which is made out of lighter aluminum profile which are used to create divisional walls which would separate the spaces. Skin which would be made out of recycled plastic bottles fixed to a plastic mesh which would be attached to the frame. For the floor I want to use my semester I material which I've made out of construction wast which will be laid thinly on top of plywood sheets, this will give the look and feel of a concrete floors but be much more sustainable as it's made out of wast rather than new product.



Few different variations of the pavilions shape in plan. Shape 1



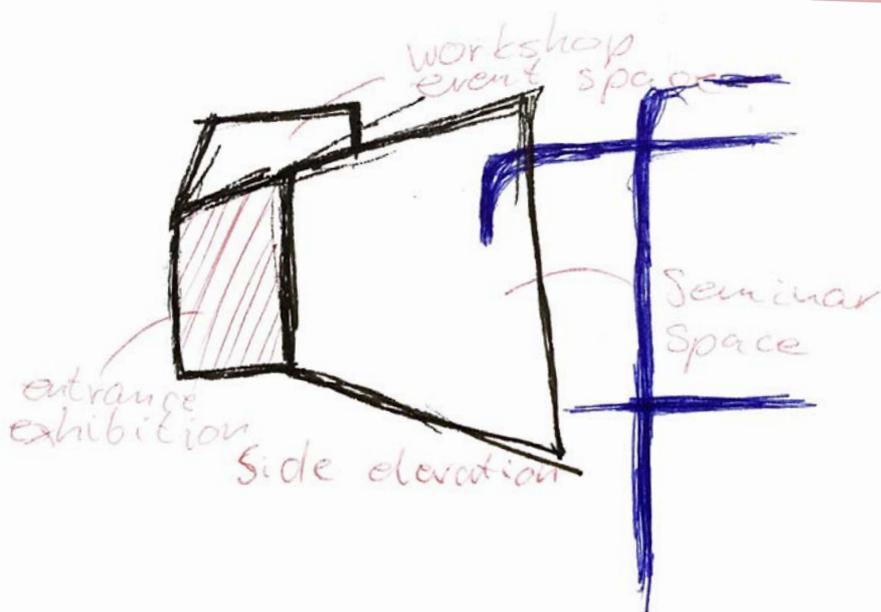
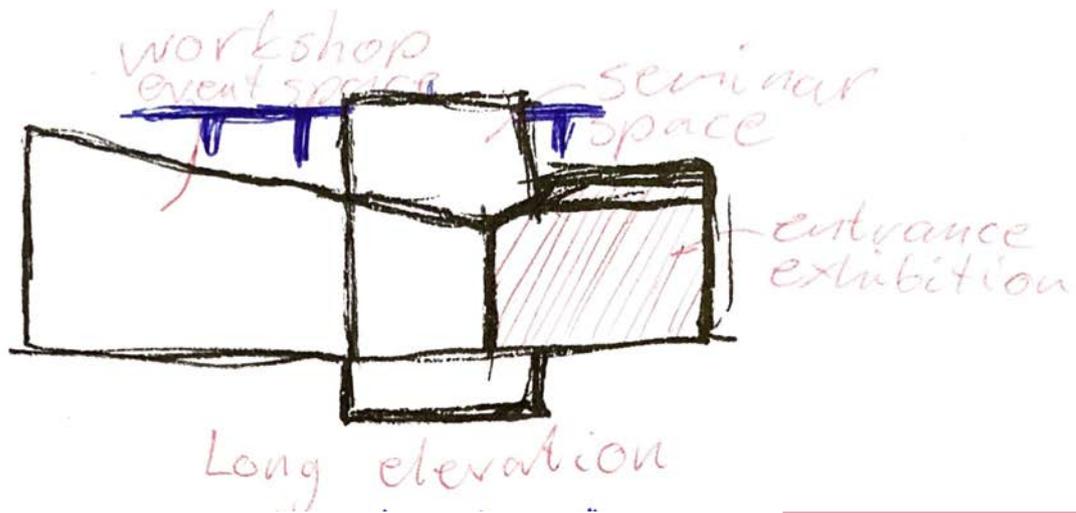
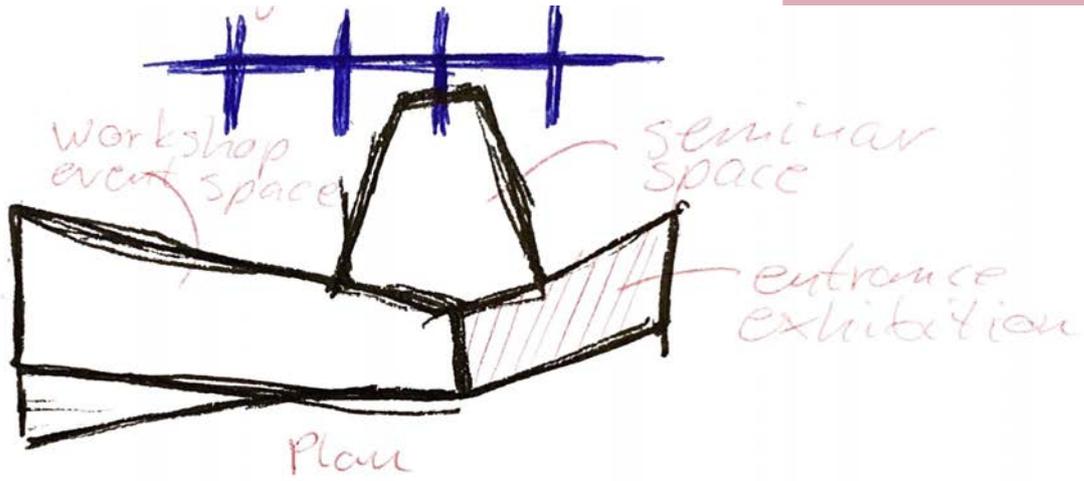
Shape 2



Shape 3

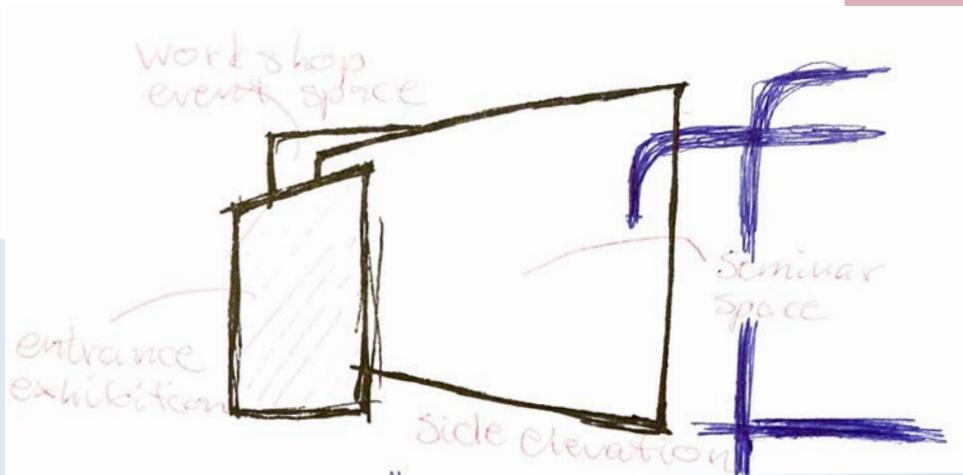
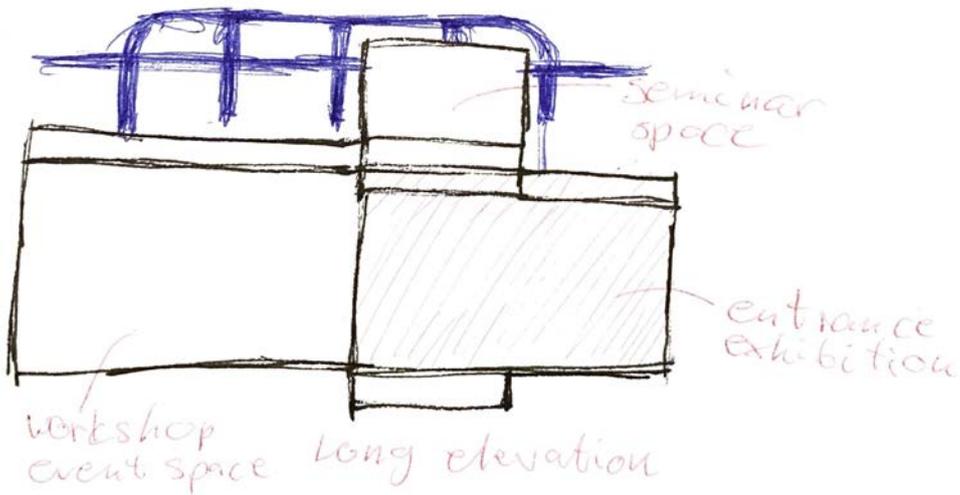
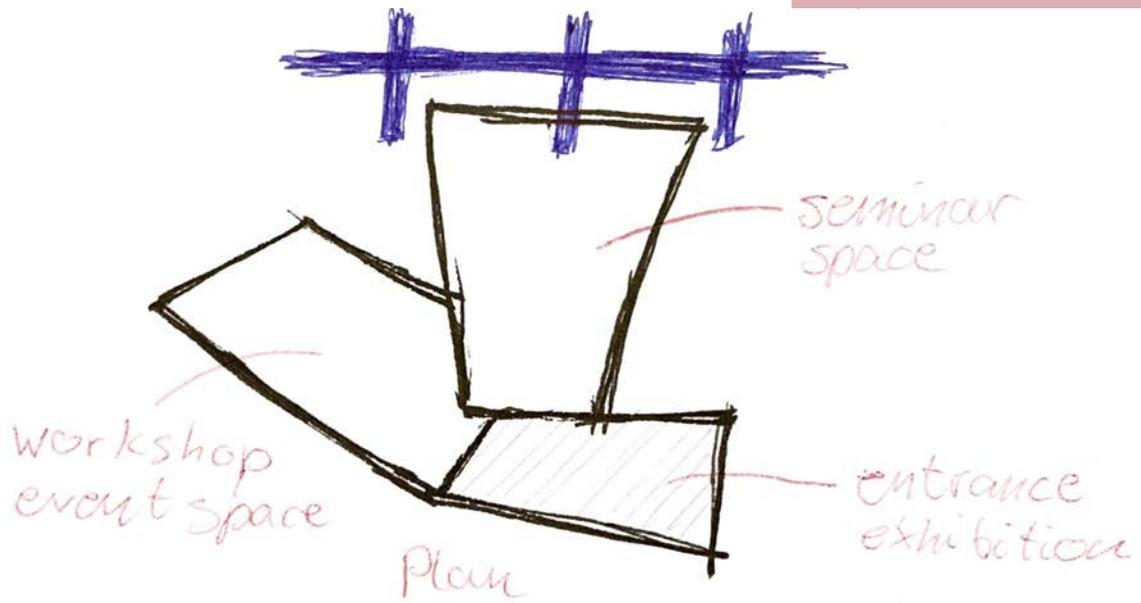
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SPATIAL AGENCY - Iteration 4.1



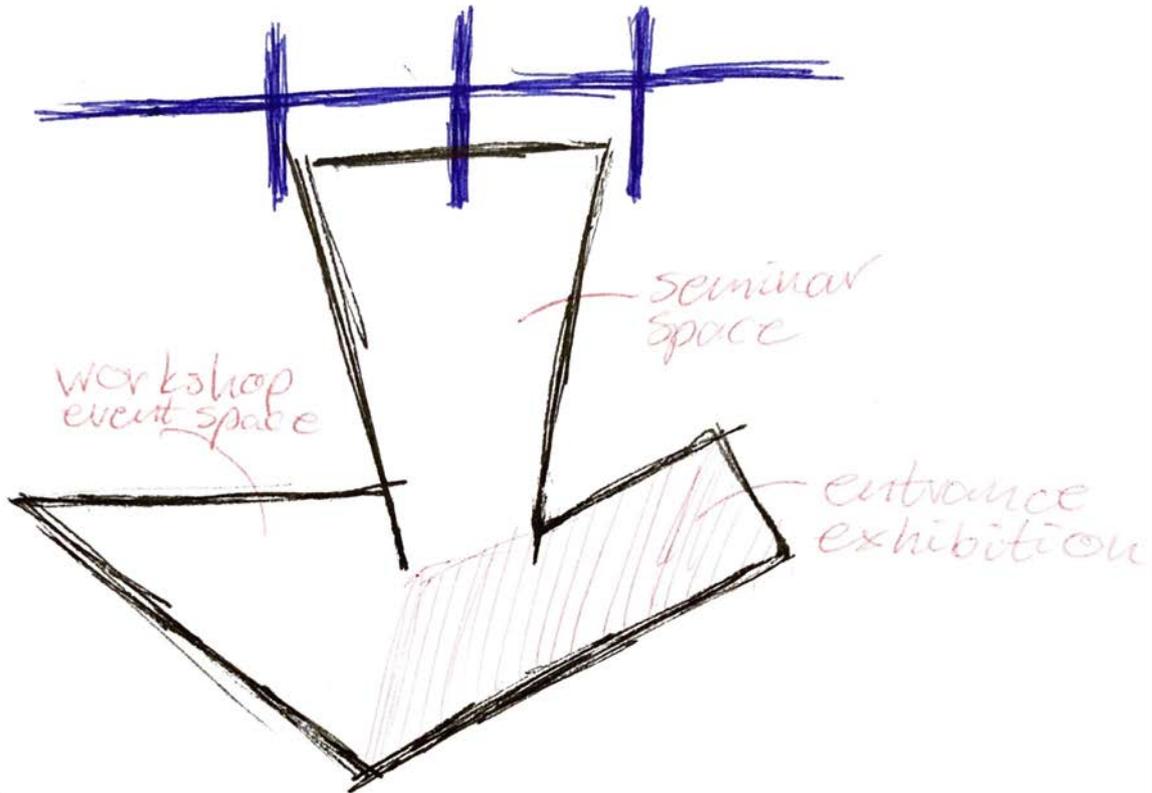
02.1

SPATIAL AGENCY - Iteration 4.2

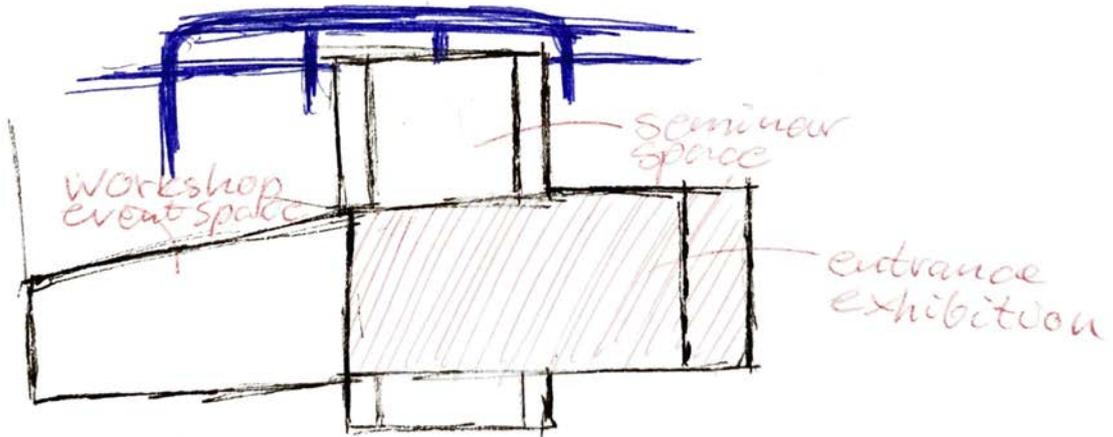


02.1

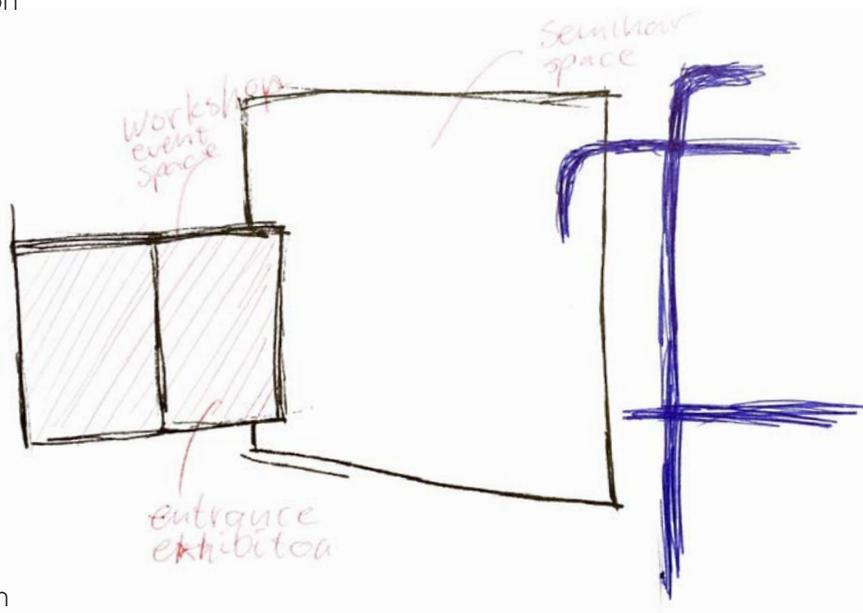
SPATIAL AGENCY - Iteration 4.3



Plan



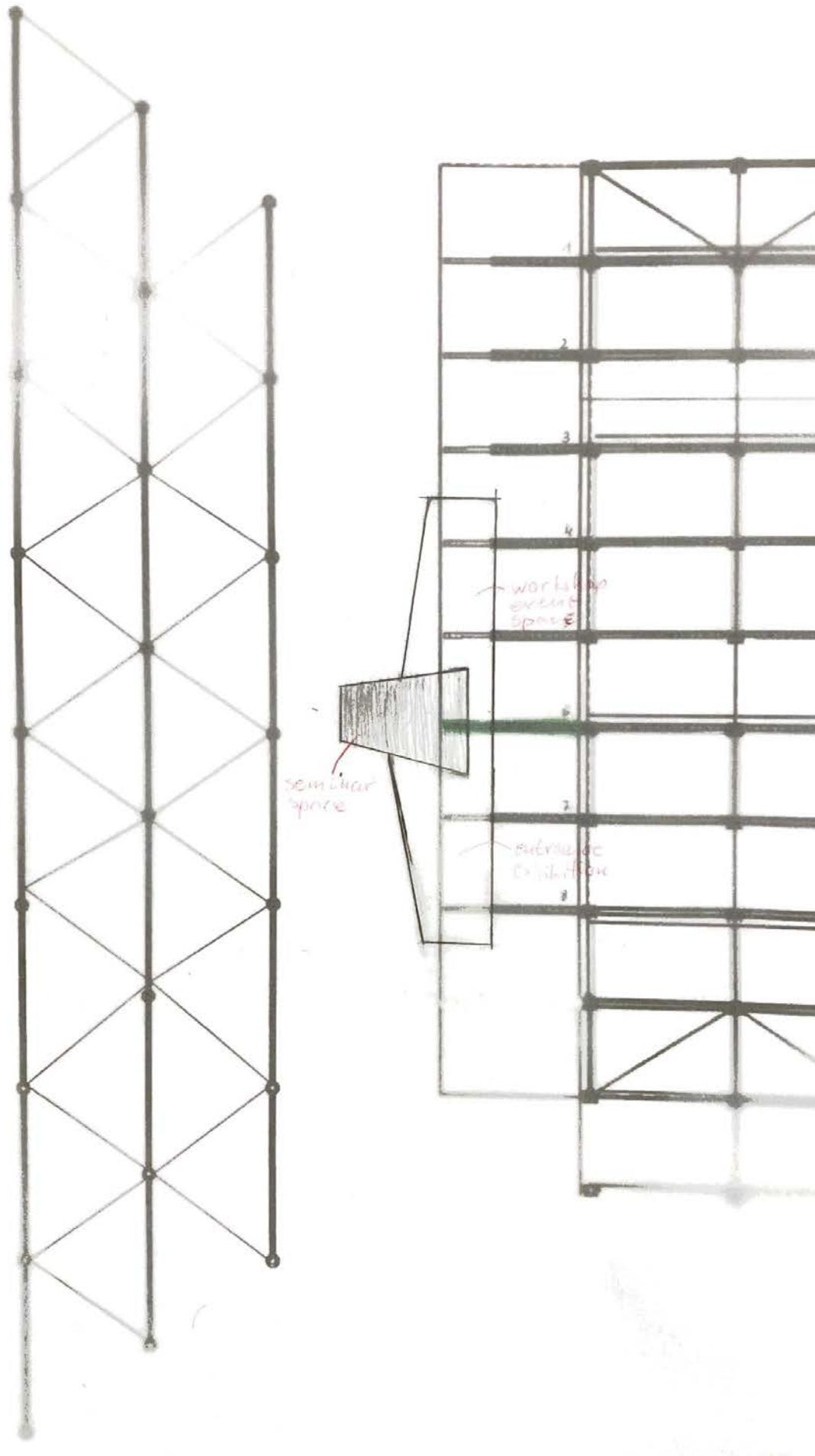
Long elevation



Side elevation

02.1

SPATIAL AGENCY - Iteration 5



Plan

02.1

SPATIAL AGENCY - Iteration 5

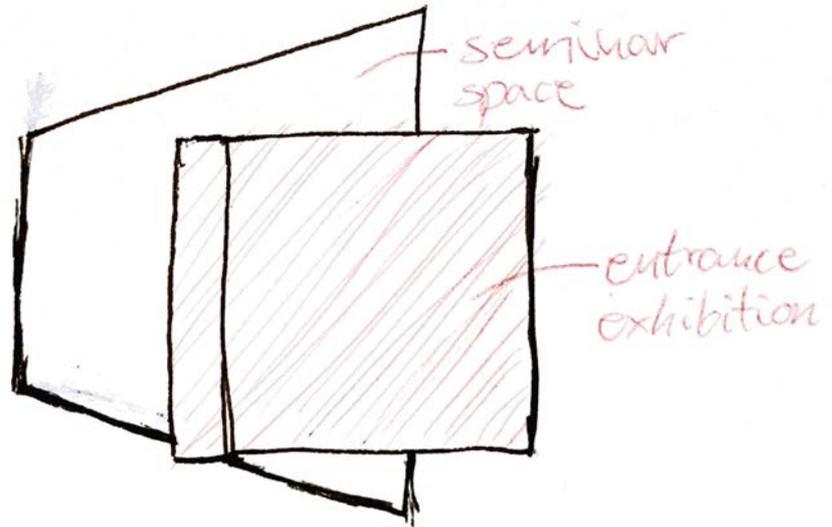
Concept for this pavilion is to create a space that will serve three purposes, space for exhibition, seminar room and a workshop/event space. The spaces will be connected but have the option to separate them from one another depending of the size and type of event.

The seminar room will be the center of the pavilion, the room will have seating for 60 people. It'll have auditorium style seating(wide fan or end stage). The "end stage" style of the auditorium is well suited to hold lectures and seminars. "Wide fan" style of auditorium brings distant spectators closer to the performer. Both work well for the activity of my that space.

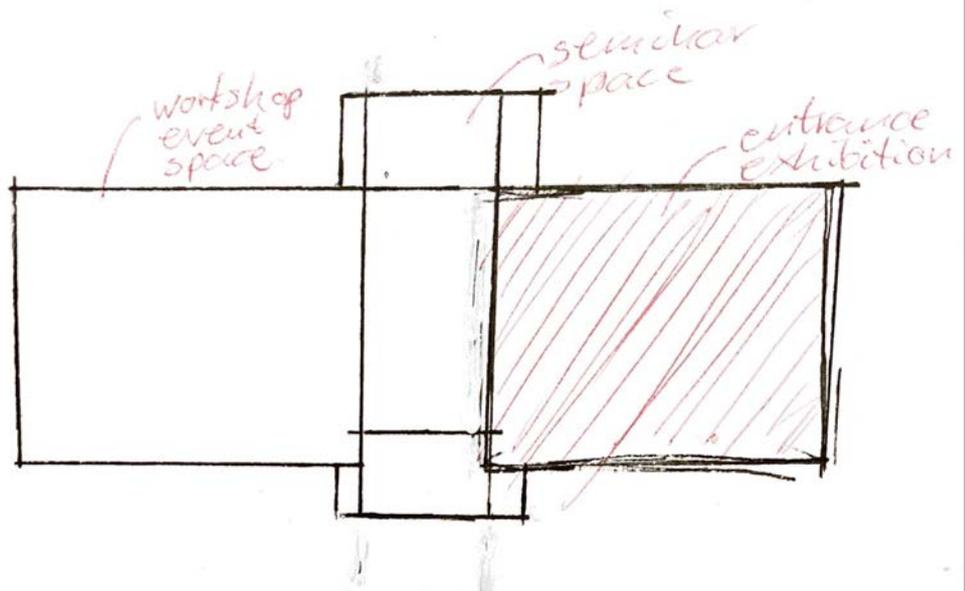
Workshop/event space where members can gather and work on written work like the recent Part W event where women and men gathered to update biographies of female designers on Wikipedia. It'll be a multi-functional space where the collective can host all types of events, from working on computers writing to small craft classes. The space will fit 30 people working while being sat down by the desk. Attached to the workshop space there will be a storage room for supplies and furniture.

Exhibition/viewing space open space that can be adapted. It's a space that connects all the spaces into one. Around 50m² floor space.

All images on this page by Angelika Ucieklak



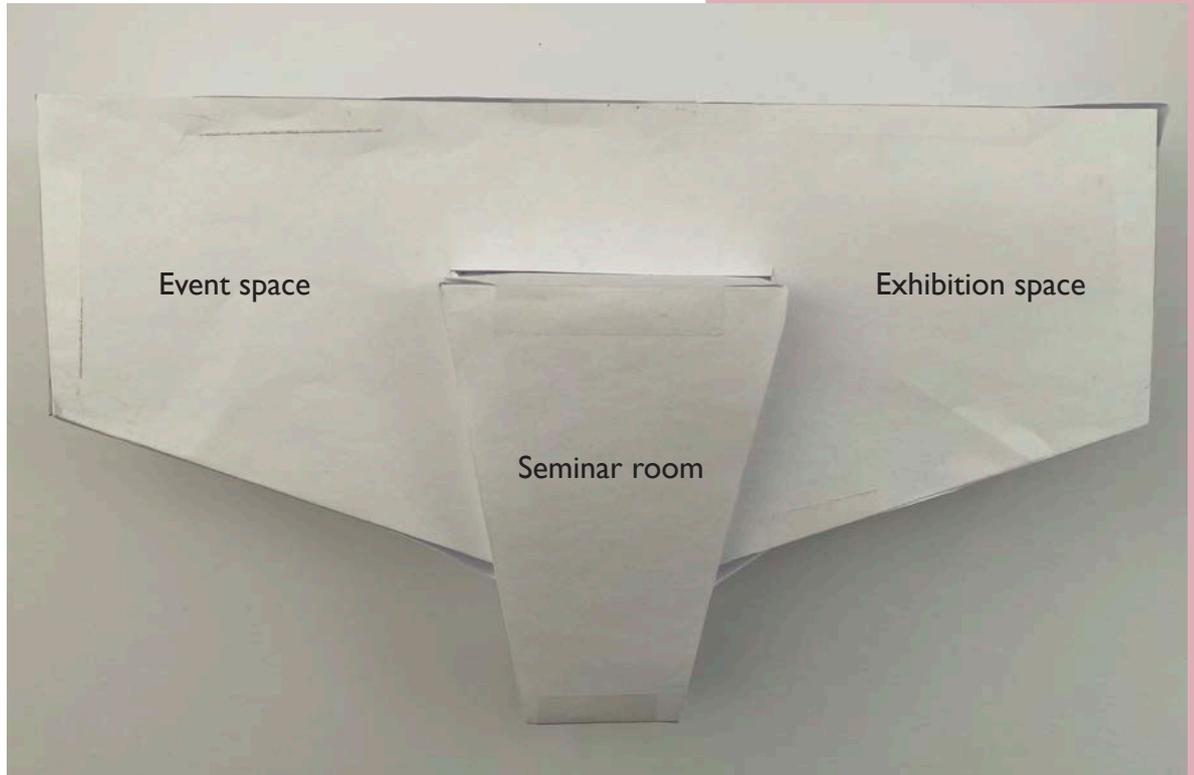
Side elevation



Long elevation

02.1

SPATIAL AGENCY - Iteration 5 sketch model



Plan



Long elevation facing east

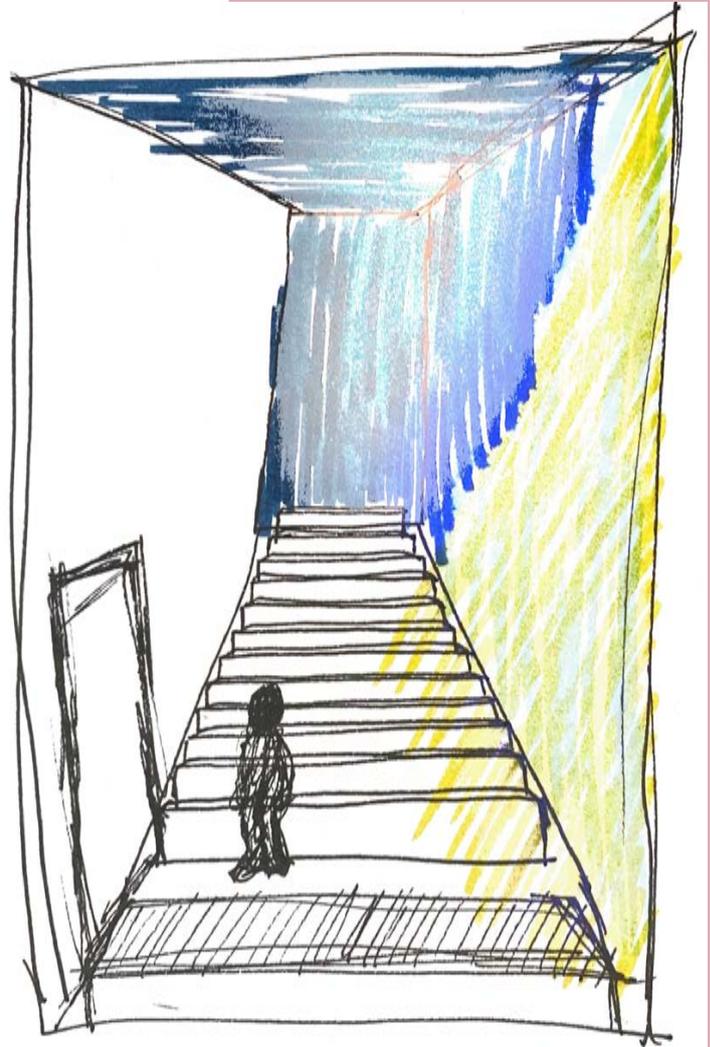


Long elevation facing west

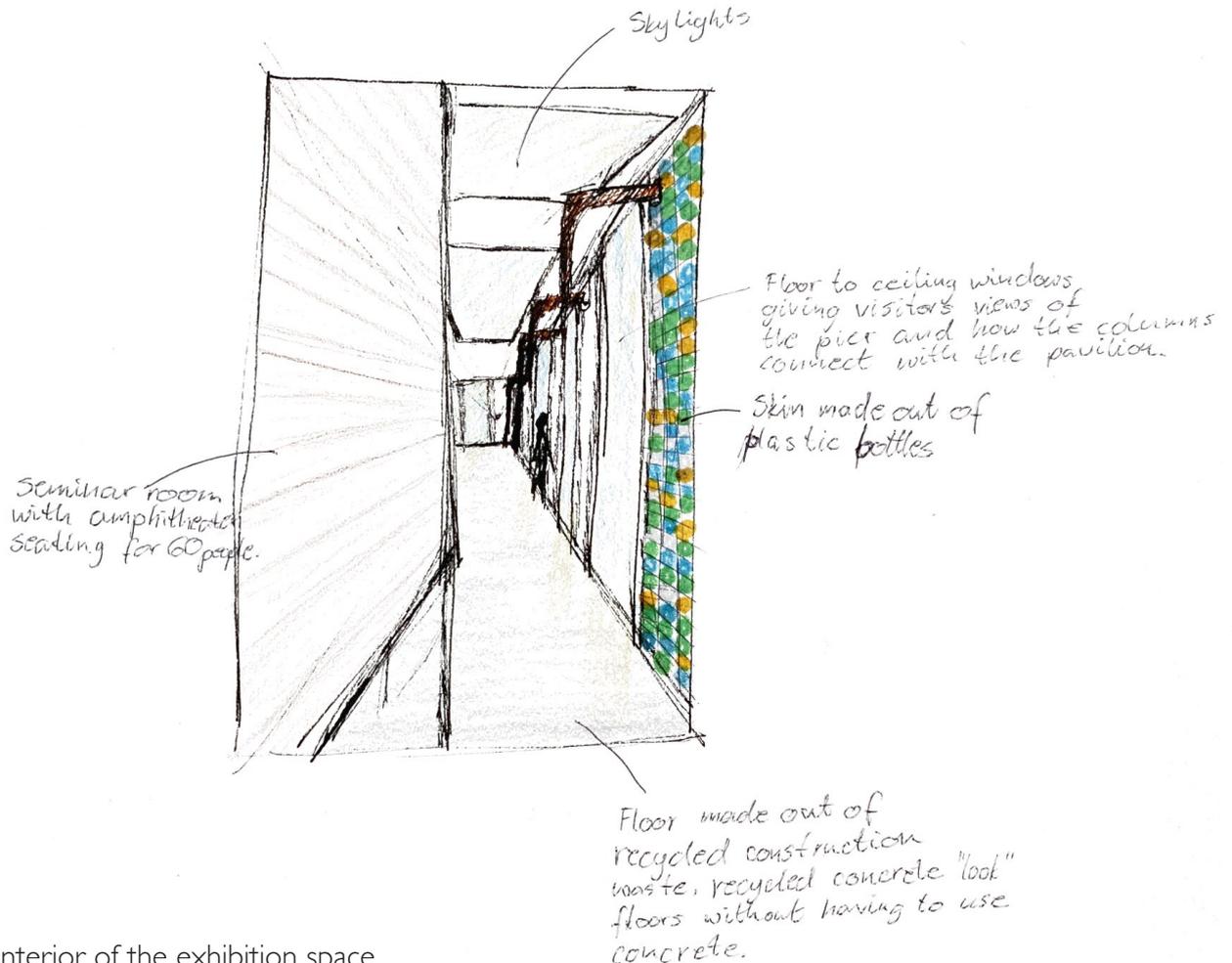
02.1

SPATIAL AGENCY - Iteration 5

In total the pavilion will consist of 3 spaces, seminar/lecture, event/classes/meetings and exhibition gallery space which will connect all the spaces into one.



Inside of the seminar room.

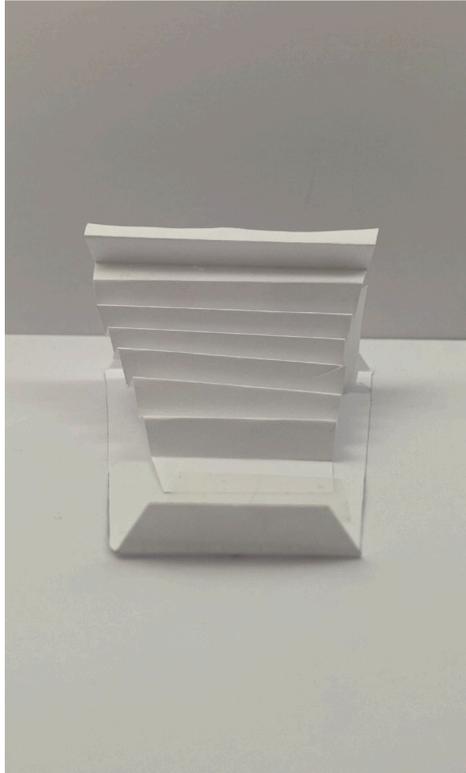
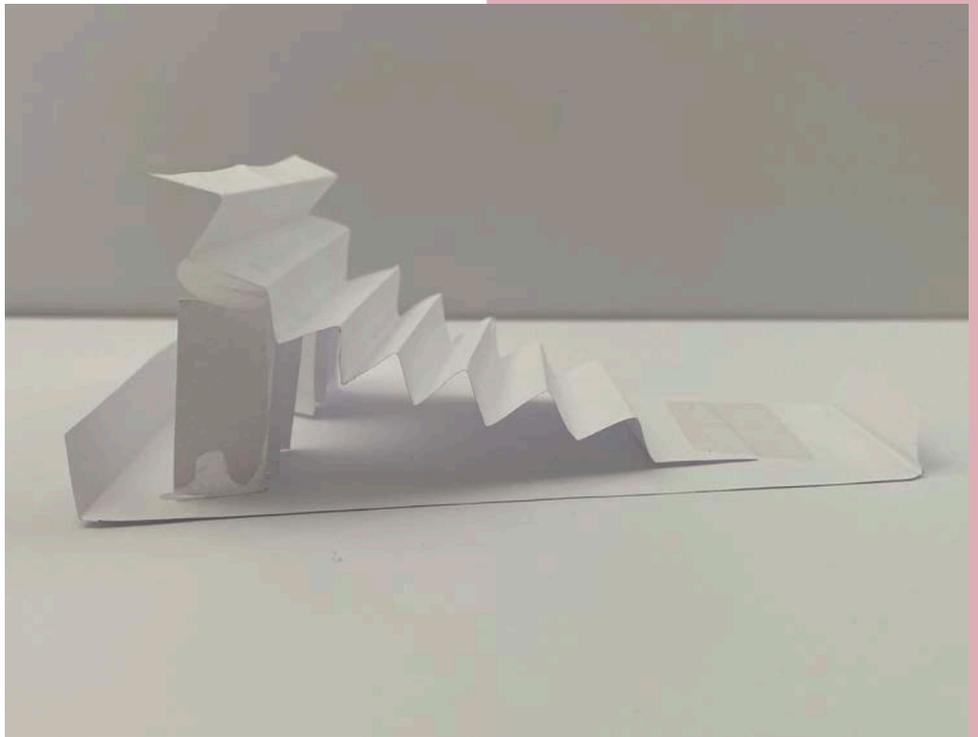


Interior of the exhibition space.

02.1

SPATIAL AGENCY - Iteration 5

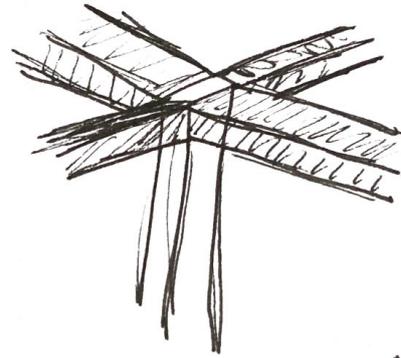
Sketch model of the inside of the seminar room with amphitheater style seating. The space can accommodate up to 60 people.



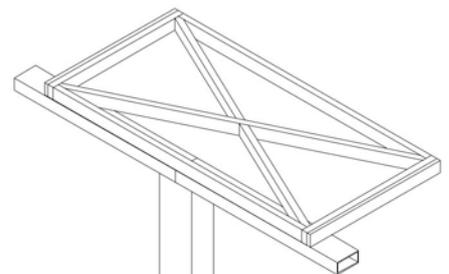
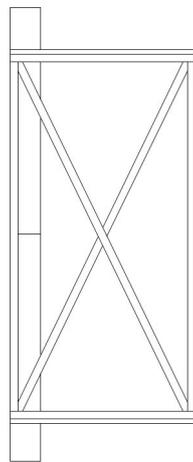
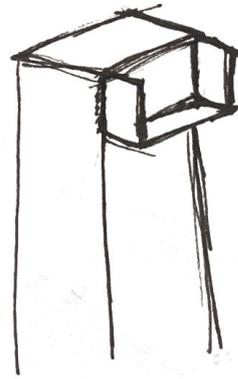
02.2

SYSMAT FESTIVALS INVESTIGATION

The systems for the festivals infrastructure is a frame made out of rectangular steel tubes which will be welded and bolted with the help of L-plates. We've looked at using a hanging plate but eventually chose to use the L-plate as a connection for the steel tubes. On top of the frame will be placed recycled plywood/ chipboard which will be covered with a recyclable material same as I'll be using for flooring inside my pavilion. Those elements will create a platform which is stretching across the whole festival.

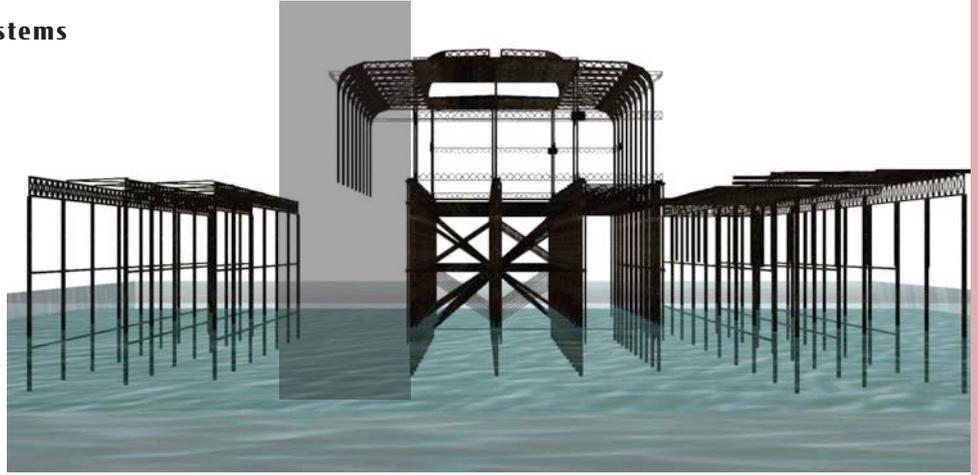


L-plate

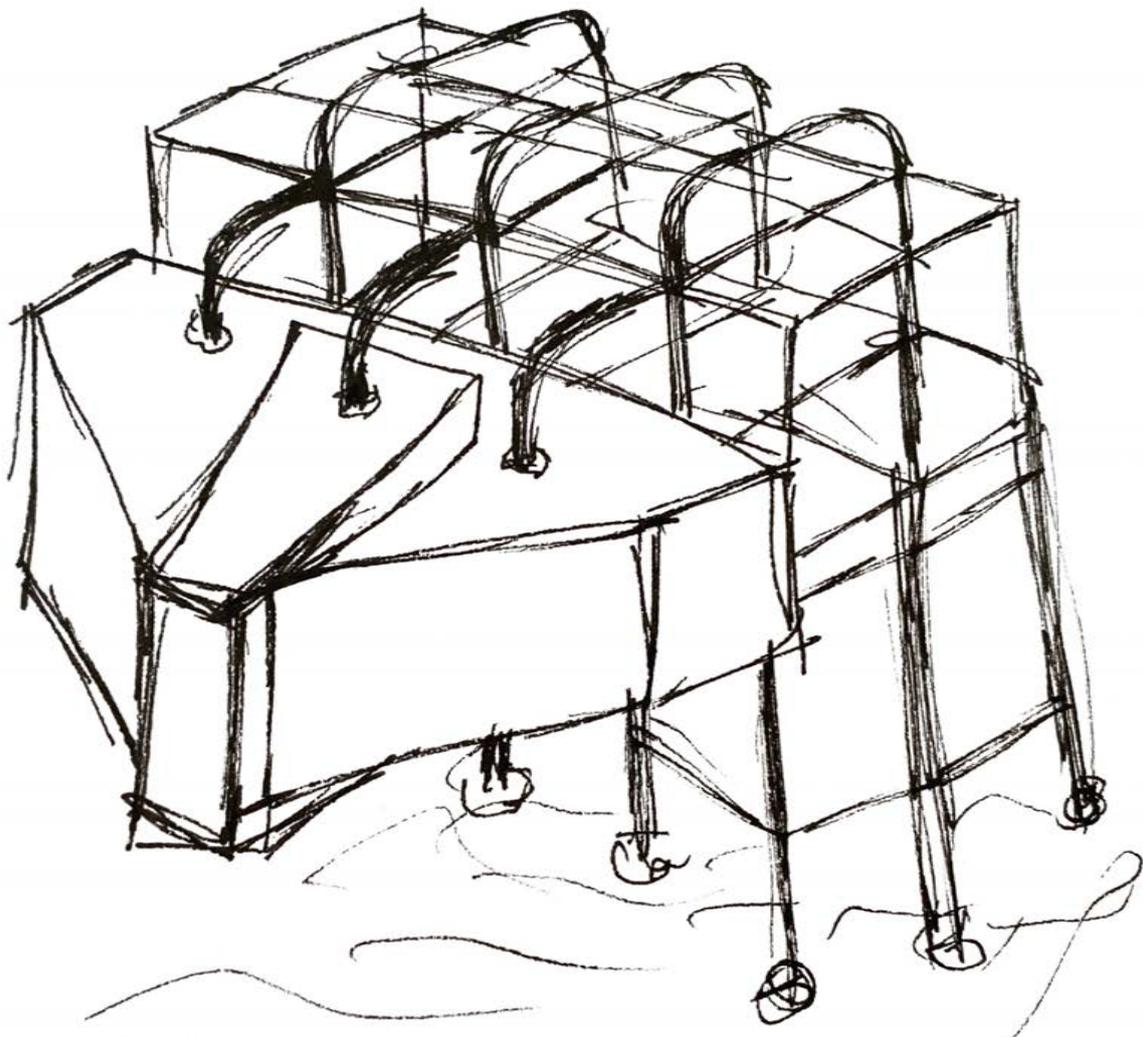
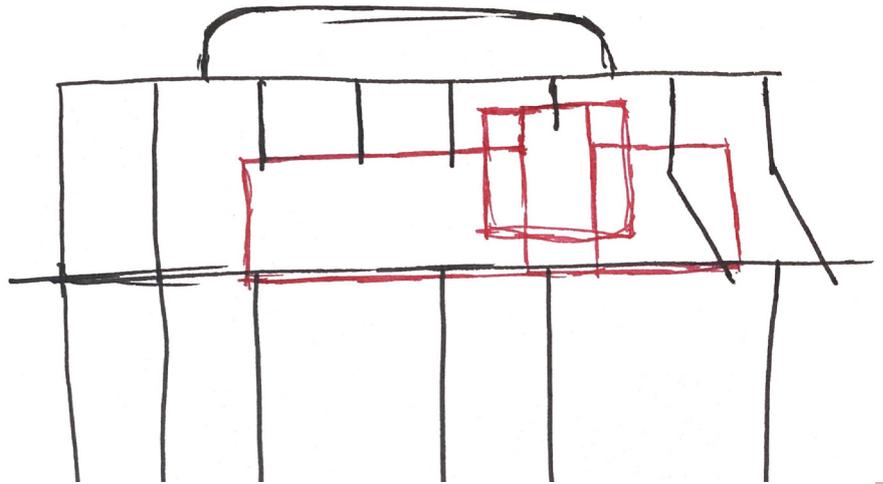


02.3

SYSMAT INVESTIGATION - Systems

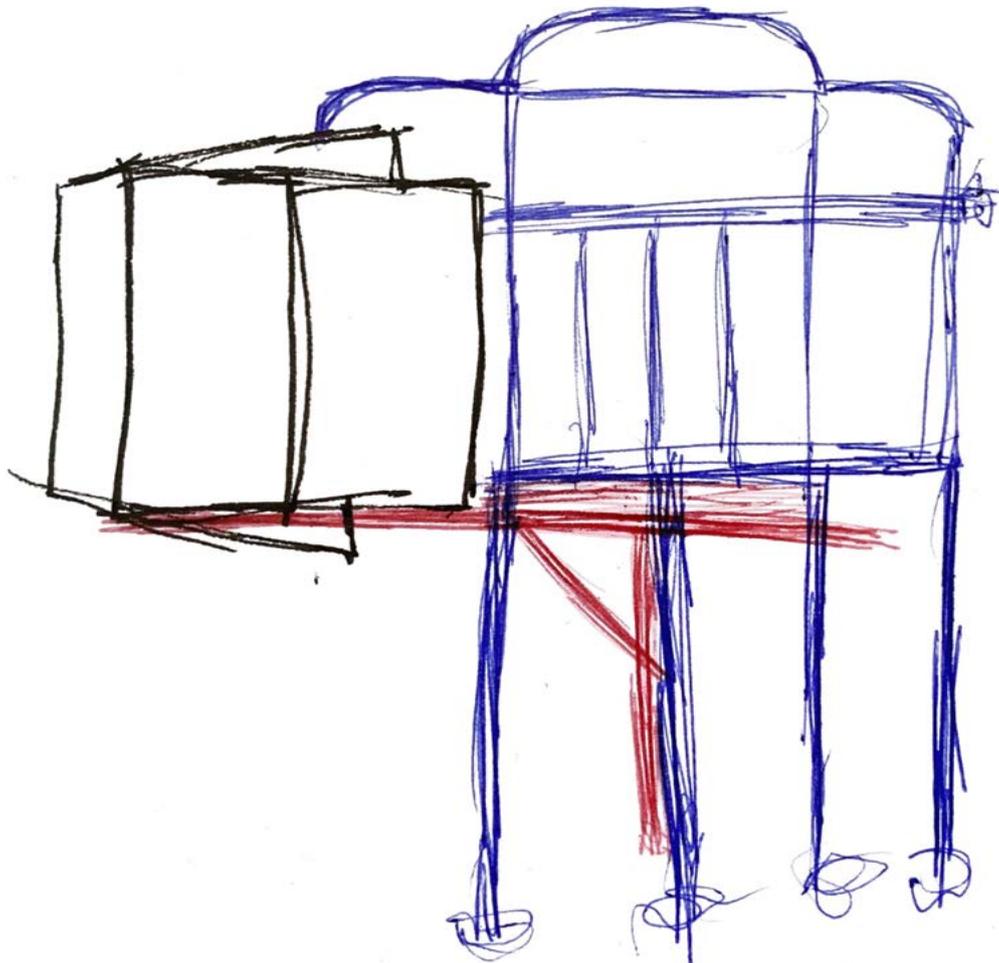
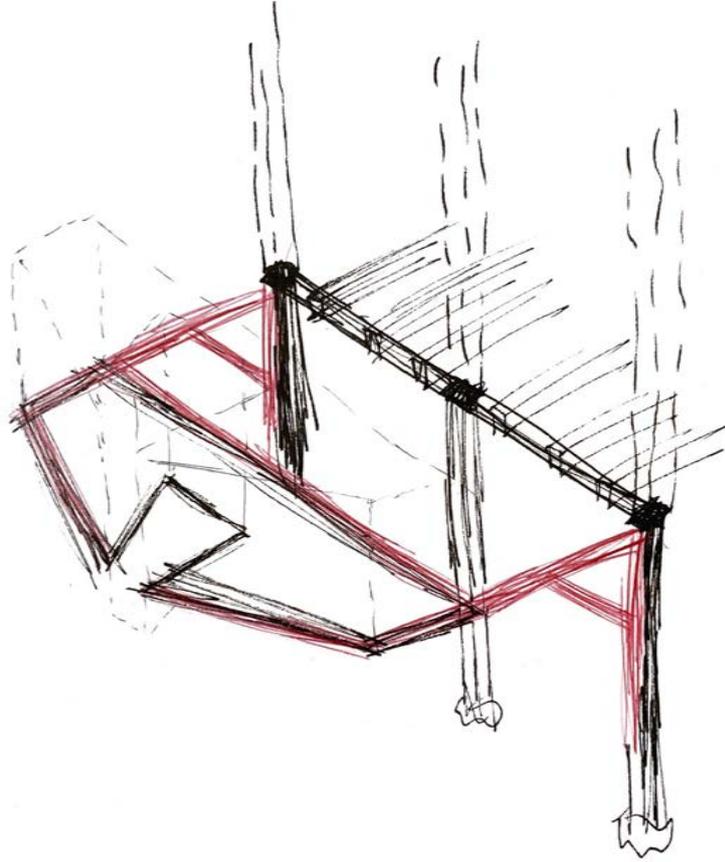


My pavilion will be attached to the pier by a cantilever which will give the illusion of a floating structure that is held up by the arched elements, remains of the columns that currently hang of the pier with no support. In reality it'll be held up by a beam that's placed underneath the pavilion and stretches out on to the pier. The beam will be bolted and welded to the piers structure to give it needed strength which will support the pavilion.



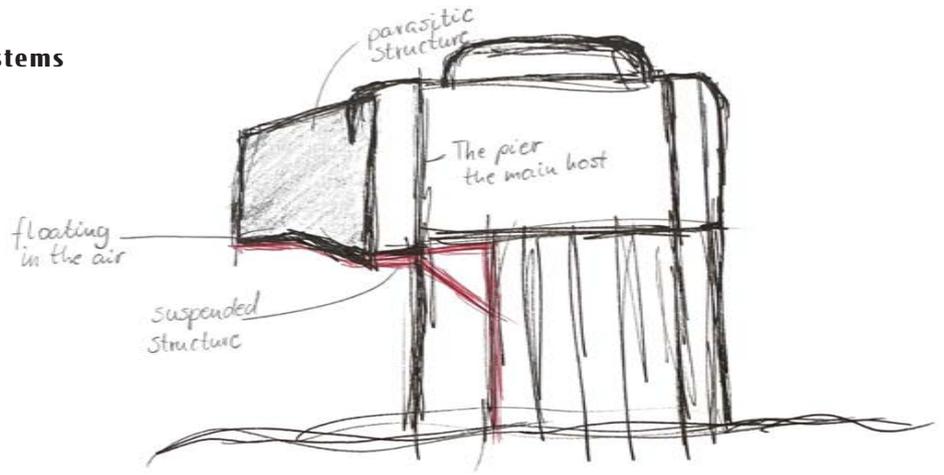
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SYSMAT INVESTIGATION - Systems



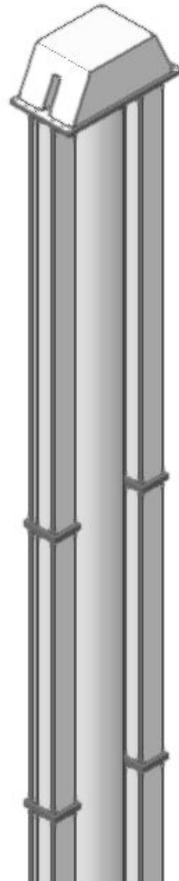
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SYSMAT INVESTIGATION - Systems

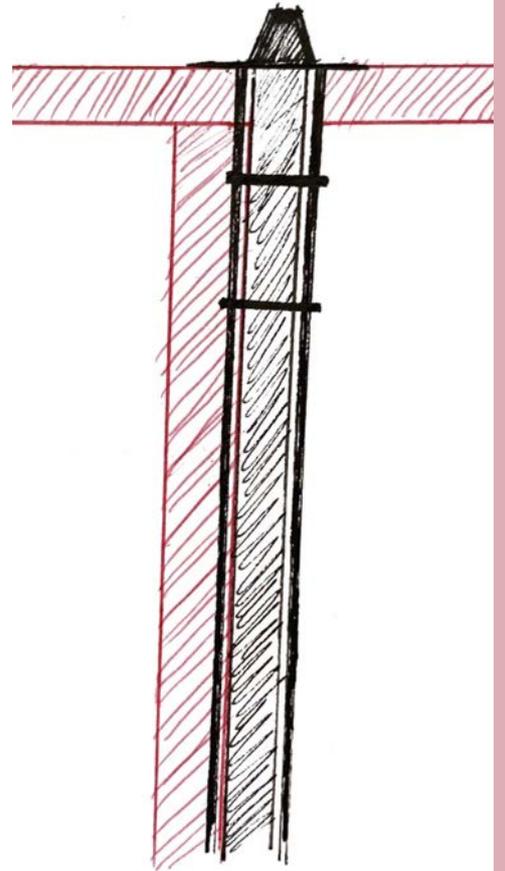


Definition of a cantilever beam :

"Cantilever, beam supported at one end and carrying a load at the other end or distributed along the unsupported portion. The upper half of the thickness of such a beam is subjected to tensile stress, tending to elongate the fibres, the lower half to compressive stress, tending to crush them. Cantilevers are employed extensively in building construction and in machines. In building, any beam built into a wall and with the free end projecting forms a cantilever. Longer cantilevers are incorporated in a building when clear space is required below, with the cantilevers carrying a gallery, roof, canopy, runway for an overhead travelling crane, or part of a building above." - Encyclopedia Britannica

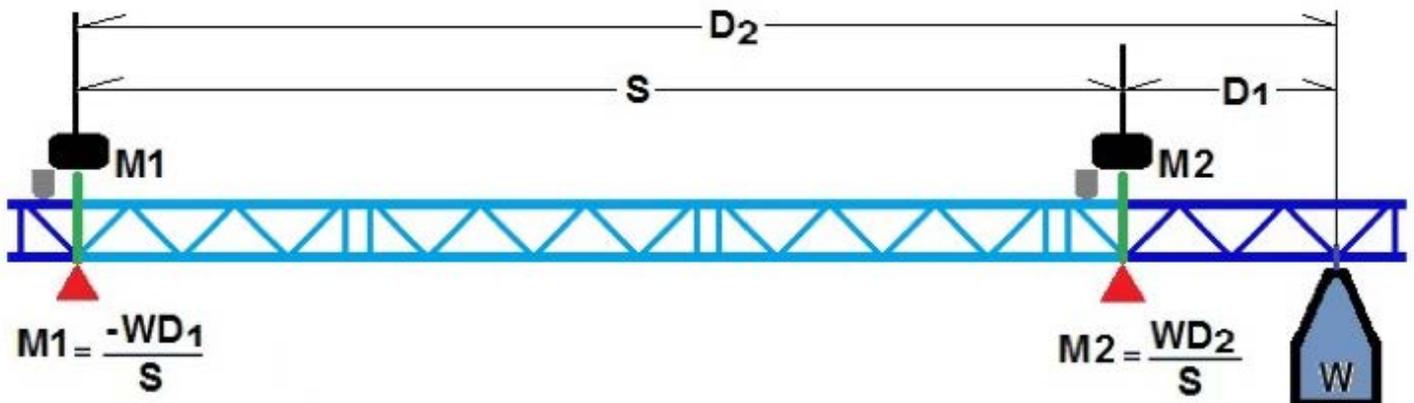


Piers column, existing



Piers column, proposed

Cantilever Formula

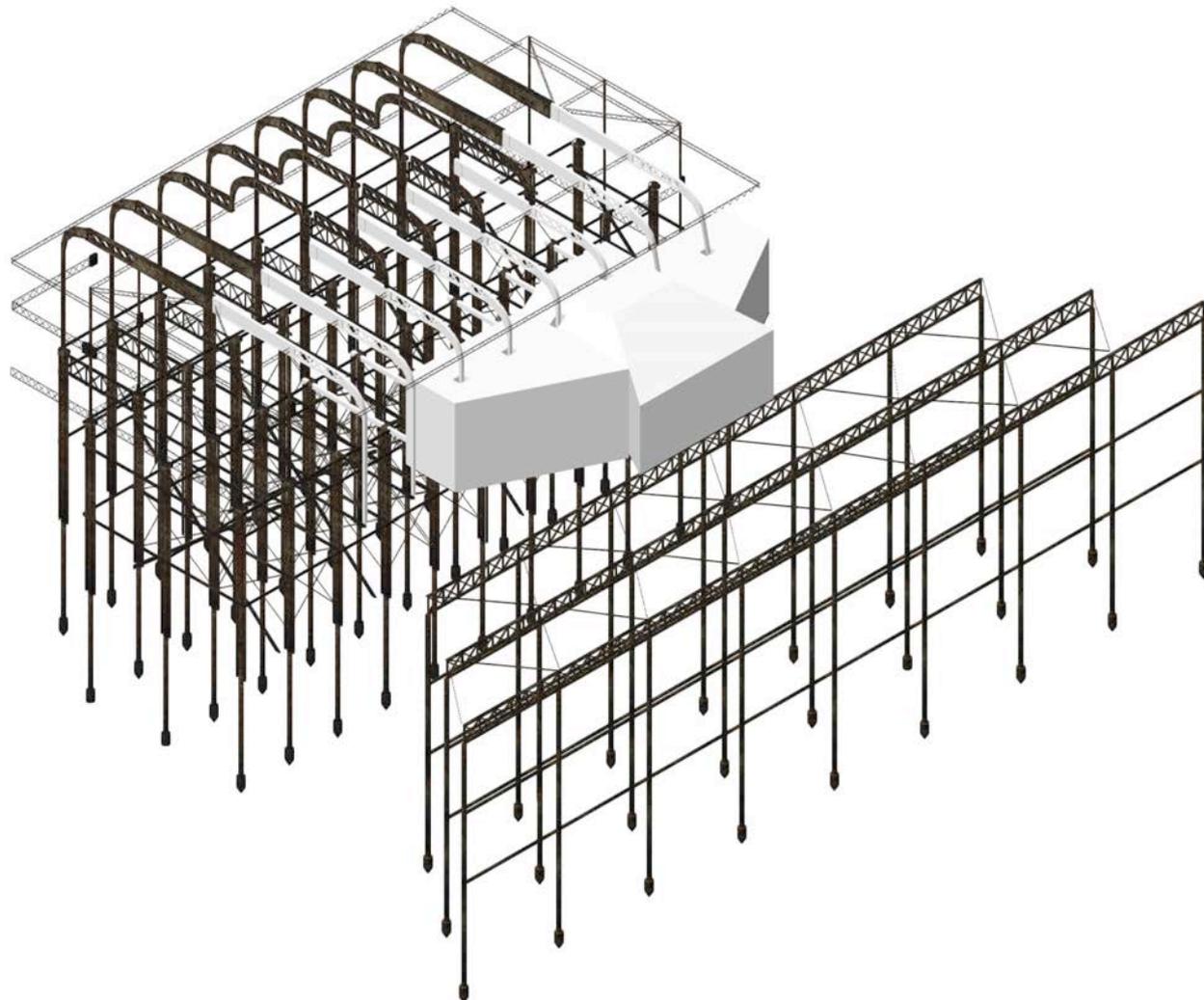
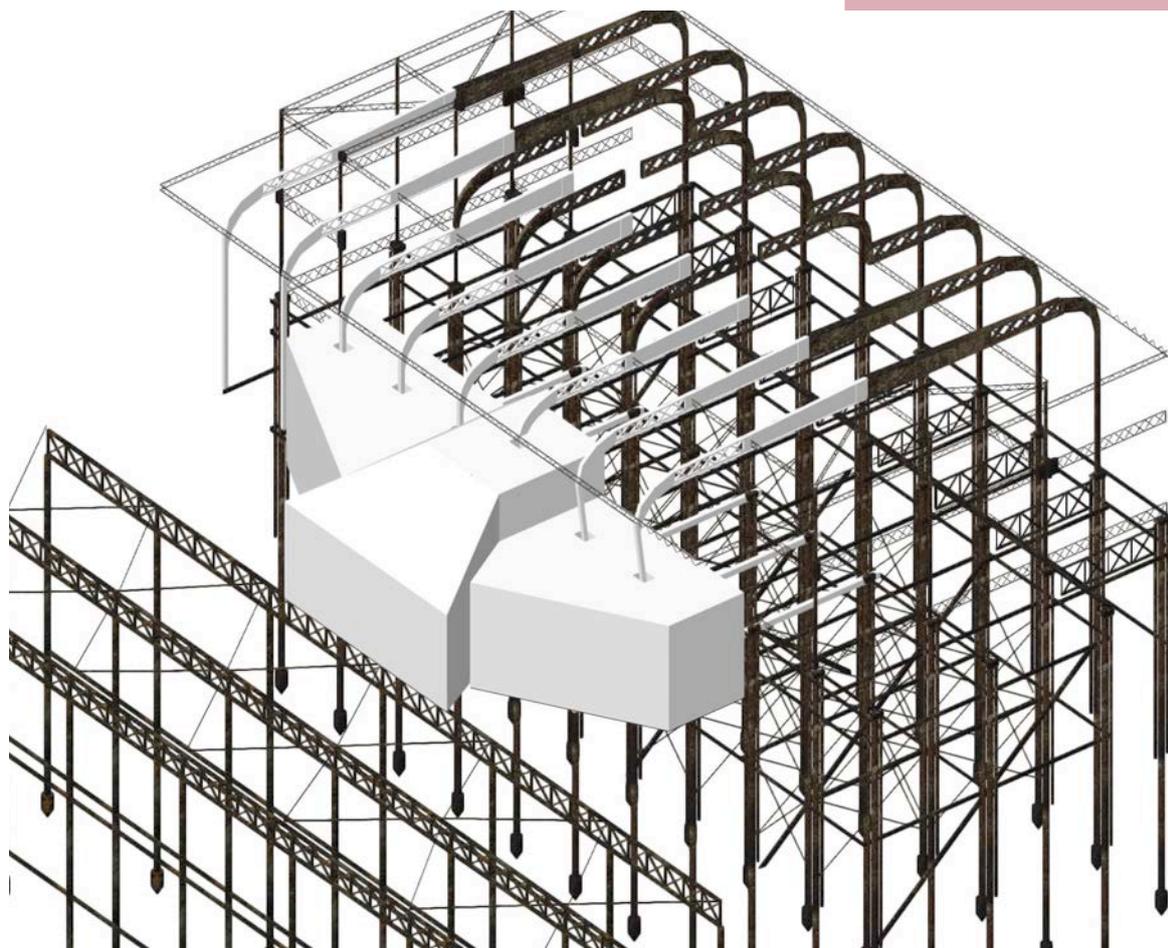


Cantilever formula created by Rinus Bakker ⁵⁶

All images on this page beside one by Angelika Ucieklak

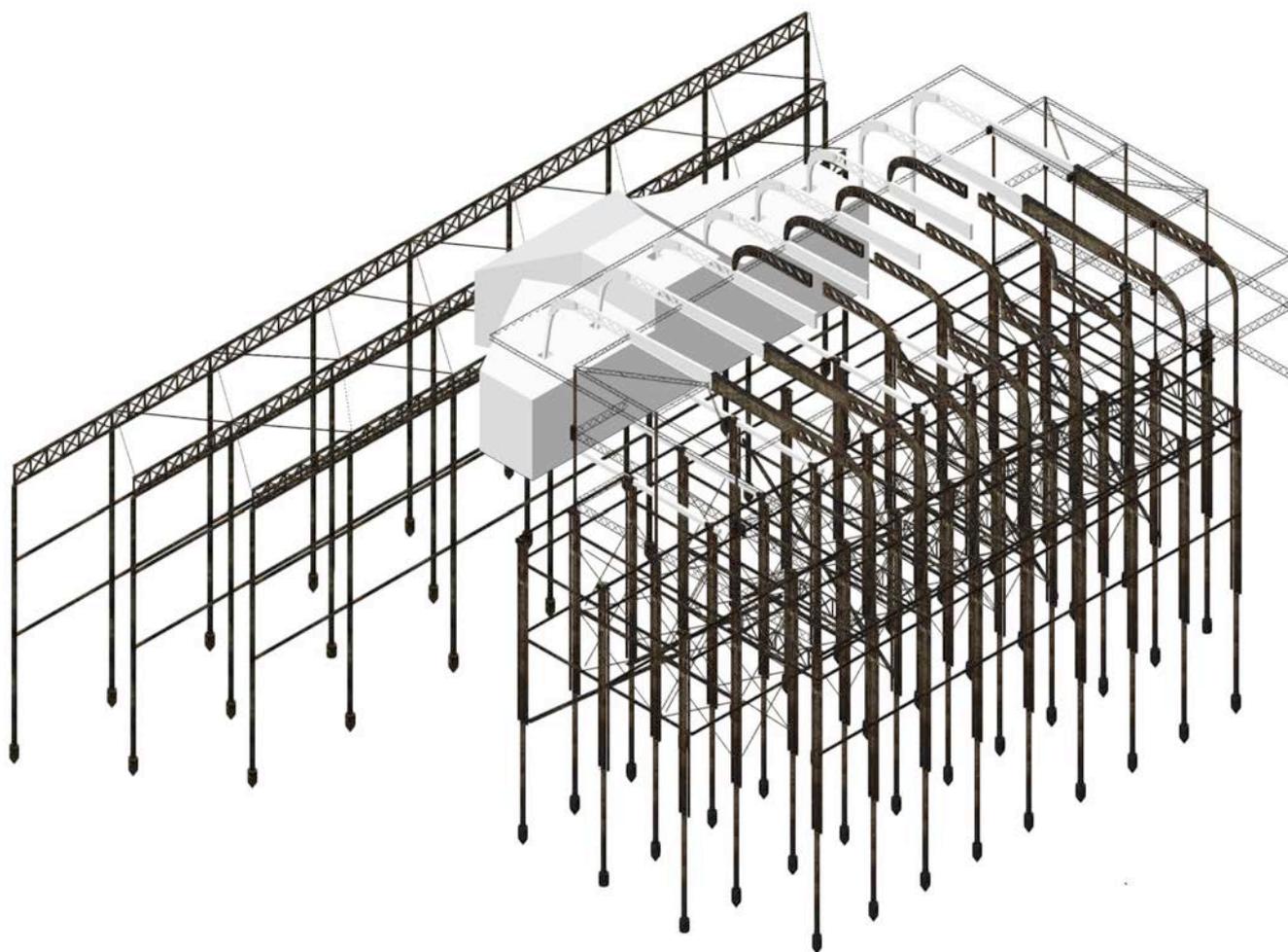
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SYSMAT INVESTIGATION - Systems



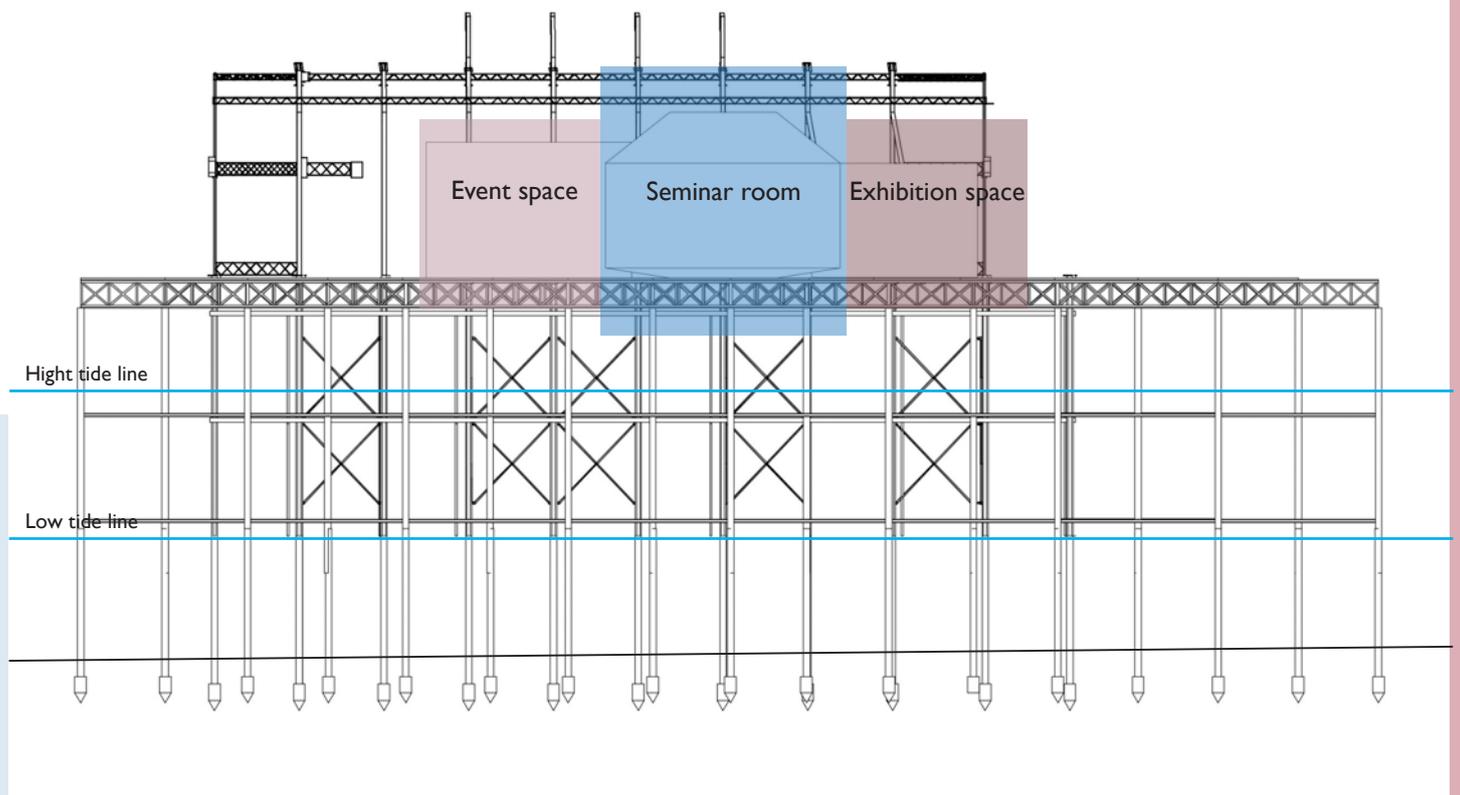
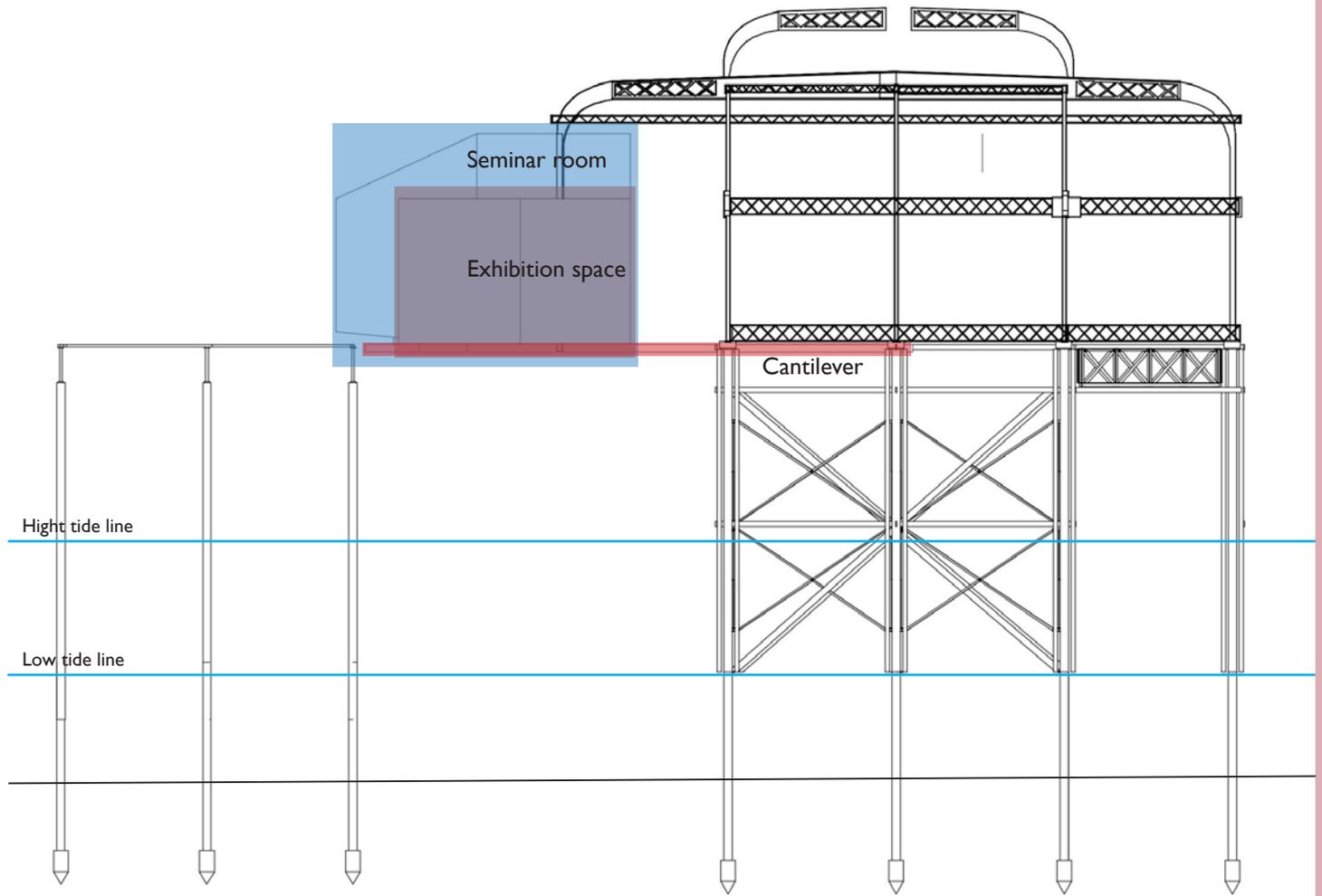
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SYSMAT INVESTIGATION - Systems



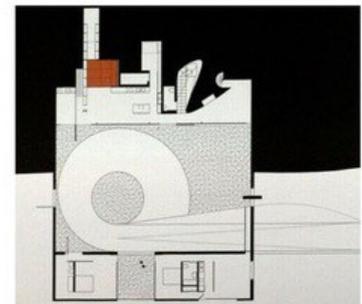
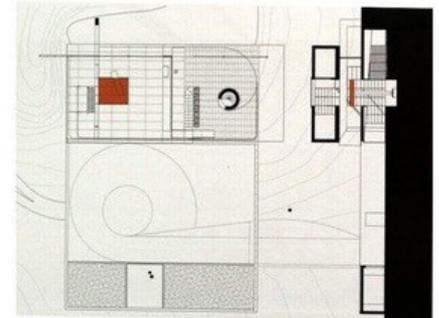
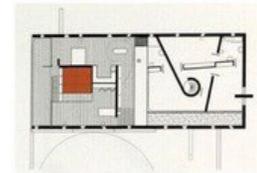
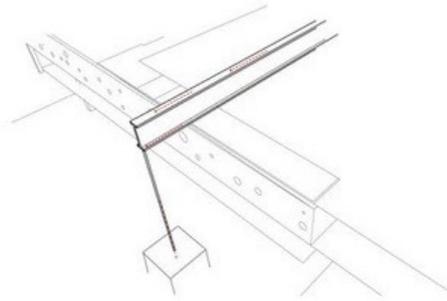
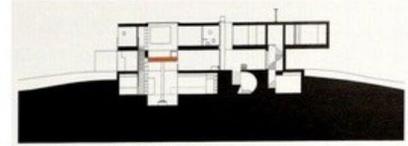
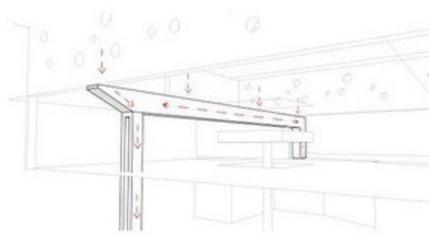
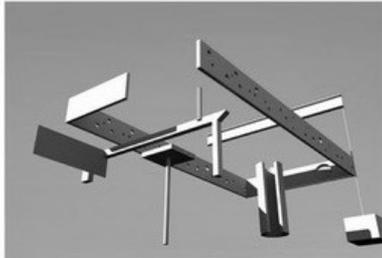
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SYSMAT INVESTIGATION - Systems

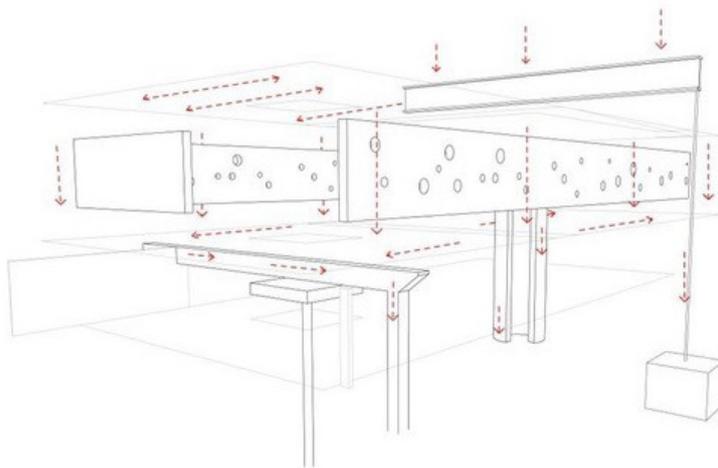


02.3

SYSMAT INVESTIGATION - Systems precedent



MAISON A BORDEAUX, FRANCE OMA. REM KOOLHAAS



FACT SHEET

Project:
Private residence overlooking the City of Bordeaux

Year:
1994 comission, 1998 completed
Type:
Residence

Location:
Bordeaux, France

Site:
Slope from Bordeaux centre on a cape-like hill, 180° view over the city and the river

Program:
3 bedrooms, 3 bathrooms (main house);
2 bedrooms, 2 bathrooms (guesthouse);
(total area: 500m²)

Major Materials:
Concrete
Steel
Glass

Partner in charge:
Rem Koolhaas

Structure:
Anup, Cecil Balmond

Hydraulics:
Gerard Couillardreau

The Maison à Bordeaux is a private residence of three floors on a cape-like hill overlooking Bordeaux. The lower level is a series of caverns carved out from the hill, designed for the most intimate life of the family; the ground floor on garden level is a glass room – half inside, half outside – for living; and the upper floor is divided into a children's and a parents' area. The heart of the house is a 3x3.5m elevator platform that moves freely between the three floors, becoming part of the living space or kitchen or transforming itself into an intimate office space, and granting access to books, artwork, and the wine cellar.

Foals performing at The Park Stage, Glastonbury, 2019 Image source: Jim Dyson/Getty Images⁵⁷

02.3

SYSMAT INVESTIGATION - Materials

HEAD IN THE CLOUDS, STUDIOKCA, NEW YORK, UNITED STATES, 2013

For the whole design of my pavilion I want to only use reclaimed or recycled materials. I want to source the materials locally. One of the materials I plan to use for enclosure is plastic bottles which would let in light but shelter from the rain and wind. A precedent that show the reuse of plastic bottles to create a sheltered structure was created by STUDIOKCA's and it's called 'Head in the Clouds' Pavilion. It was designed and constructed in New York and opened for public to experience on Governors Island in New York.



PROJECT: HEAD IN THE CLOUDS ARCHITECT/DESIGNER: STUDIOKCA (Studo Kimoski Chang Architects) *For Hi-Res images email Lesley Chang at info@studiokca.com

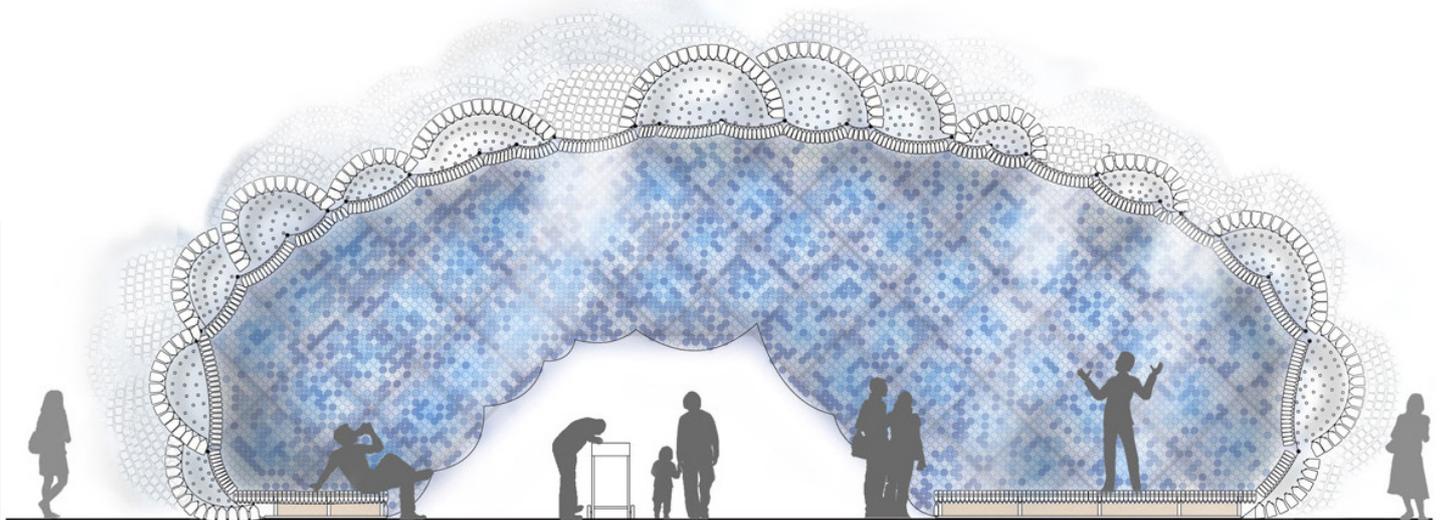
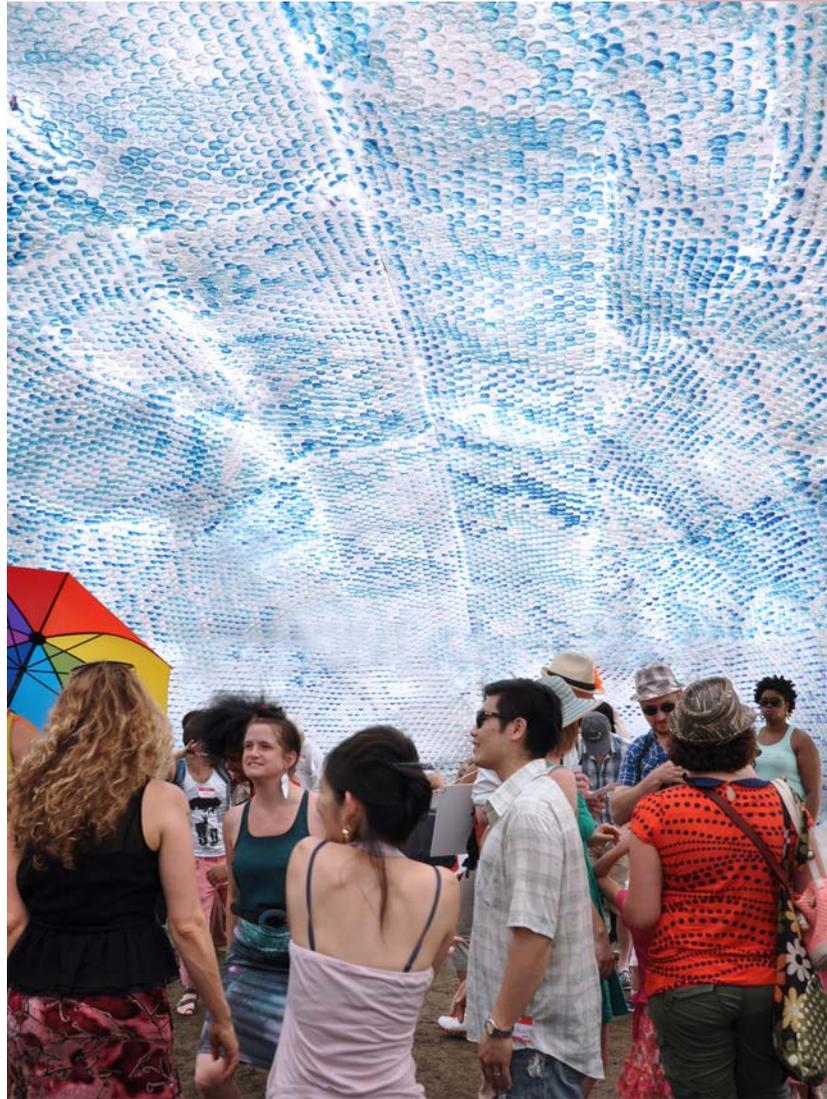


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CONTACT SHEET 1 of 2

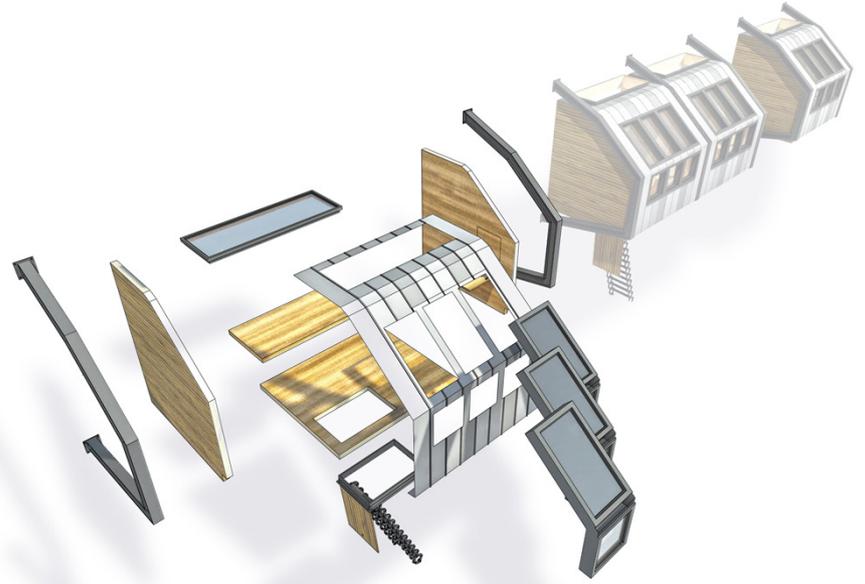
02.3

SYSMAT INVESTIGATION - Materials

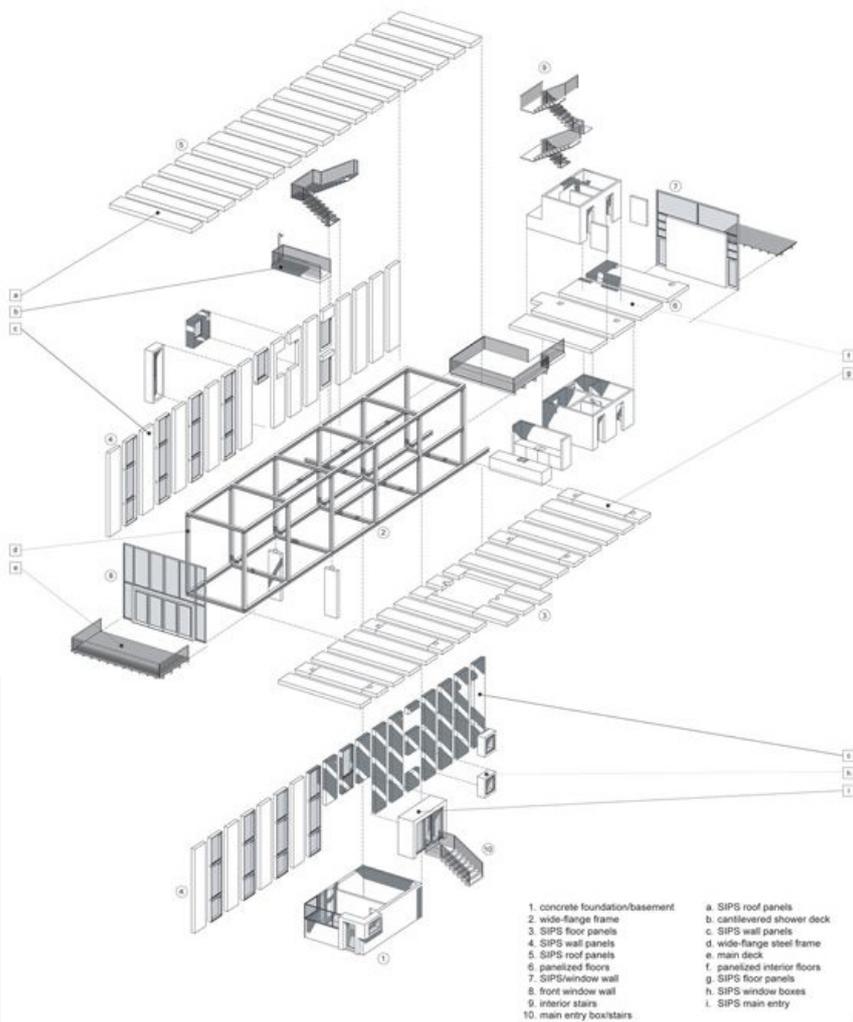


02.3

SYSMAT MATRIX DRAWING PRECEDENT



Called Homes for the Homeless, James Furzer; London, UK, 2015 Image source: James Furzer ⁶³



- | | |
|---------------------------------|------------------------------|
| 1. concrete foundation/basement | a. SIPs roof panels |
| 2. wide-flange frame | b. cantilevered shower deck |
| 3. SIPs floor panels | c. SIPs wall panels |
| 4. SIPs wall panels | d. wide-flange steel frame |
| 5. SIPs roof panels | e. main deck |
| 6. panelized floors | f. panelized interior floors |
| 7. SIPs window wall | g. SIPs floor panels |
| 8. front window wall | h. SIPs window boxes |
| 9. interior stairs | i. SIPs main entry |
| 10. main entry box/stairs | |



Anderson Anderson Architecture

Cantilever House, Anderson Anderson Architecture, Granite Falls, United States, 2010 Image source: Anderson Anderson Architecture ⁶⁴

ENDNOTES

- ¹ <https://twitter.com/westpiertrust/status/1018820189364813824>
- ² <https://www.brightonandhovevents.org/2019/10/12/film-makers-want-to-hear-peoples-west-pier-memories/>
- ³ <https://www.citymetric.com/fabric/can-brighton-really-save-its-west-pier-3795>
- ⁴ <https://www.westpier.co.uk/gallery/late-20th-century/>
- ⁵ <https://gandyarchitecture.com/portfolio/concours-demain-jeleve-le-haut/>
- ⁶ <https://gandyarchitecture.com/portfolio/concours-demain-jeleve-le-haut/>
- ⁷ <https://gandyarchitecture.com/portfolio/concours-demain-jeleve-le-haut/>
- ⁸ https://davidchipperfield.com/project/neues_museum
- ⁹ https://davidchipperfield.com/project/neues_museum
- ¹⁰ https://davidchipperfield.com/project/neues_museum
- ¹¹ <https://www.museumsportal-berlin.de/de/planen-organisieren-pl/museumsquartiere/wyspa-muzeow/>
- ¹² <https://www.archdaily.com/802418/coracera-castle-rehabilitation-riano-plus-arquitectos>
- ¹³ <https://www.archdaily.com/802418/coracera-castle-rehabilitation-riano-plus-arquitectos>
- ¹⁴ <https://www.archdaily.com/802418/coracera-castle-rehabilitation-riano-plus-arquitectos>
- ¹⁵ <https://www.archdaily.com/802418/coracera-castle-rehabilitation-riano-plus-arquitectos>
- ¹⁶ <https://www.dezeen.com/2019/07/01/alicia-biala-iwo-borkowicz-totemy-towers-baltyk/>
- ¹⁷ <https://www.totemy.org/en/totems>
- ¹⁸ <https://www.dezeen.com/2019/07/01/alicia-biala-iwo-borkowicz-totemy-towers-baltyk/>
- ¹⁹ <https://www.totemy.org/en/1/>
- ²⁰ <https://www.totemy.org/en/totems>
- ²¹ <https://www.totemy.org/en/3/>
- ²² <https://www.totemy.org/en/5/>
- ²³ <https://www.designboom.com/art/heike-mutter-ulrich-genth-tiger-and-turtle-magic-mountain/>
- ²⁴ https://static.dezeen.com/uploads/2011/11/dezeen_Tiger-and-Turtle-Magic-Mountain-by-Heike-Mutter-and-Ulrich-Genth_night_9.jpg
- ²⁵ <https://www.bdc-museum.org.uk/news/new-interactive-sculpture-for-the-museum/>
- ²⁶ <https://www.bdc-museum.org.uk/news/new-interactive-sculpture-for-the-museum/>
- ²⁷ <https://www.dezeen.com/2017/08/18/secret-studio-under-bridge-fernando-abellanas-architecture-valencia-spain/>
- ²⁸ <https://www.contemporist.com/hanging-platform-creates-a-bedroom-in-this-renovated-warehouse-space/>
- ²⁹ <https://www.archdaily.com/230533/house-na-sou-fujimoto-architects>
- ³⁰ <https://www.dezeen.com/2010/03/08/international-criminal-court-by-schmidt-hammer-lassen/>
- ³¹ <https://www.shl.dk/shanghai-west-bund-biennale/>
- ³² <http://www.amigoandamigo.com/installations/vivid-2014/>
- ³³ <https://www.archdaily.com/880691/this-brick-arch-installation-dissolves-in-the-rain-to-leave-a-mortar-skeleton>
- ³⁴ <http://www.stpmj.com/work#/dissolving-arch/>
- ³⁵ <https://www.part-w.com/who>
- ³⁶ <https://www.dezeen.com/2013/12/11/art-gallery-and-archive-by-lacaton-vassal-mirrors-the-former-shipyard-building-next-to-it/>
- ³⁷ <https://www.dezeen.com/2013/12/11/art-gallery-and-archive-by-lacaton-vassal-mirrors-the-former-shipyard-building-next-to-it/>
- ³⁸ <https://www.dezeen.com/2013/12/11/art-gallery-and-archive-by-lacaton-vassal-mirrors-the-former-shipyard-building-next-to-it/>
- ³⁹ <https://www.dezeen.com/2013/12/11/art-gallery-and-archive-by-lacaton-vassal-mirrors-the-former-shipyard-building-next-to-it/>
- ⁴⁰ <https://www.dezeen.com/2013/12/11/art-gallery-and-archive-by-lacaton-vassal-mirrors-the-former-shipyard-building-next-to-it/>
- ⁴¹ <https://www.dezeen.com/2013/12/11/art-gallery-and-archive-by-lacaton-vassal-mirrors-the-former-shipyard-building-next-to-it/>
- ⁴² <https://www.carmodygroarke.com/studio-east-dining/>
- ⁴³ <https://www.carmodygroarke.com/studio-east-dining/>
- ⁴⁴ <https://www.carmodygroarke.com/studio-east-dining/>
- ⁴⁵ <https://www.carmodygroarke.com/studio-east-dining/>
- ⁴⁶ <https://www.carmodygroarke.com/studio-east-dining/>
- ⁴⁷ <https://www.archdaily.com/784536/ad-classics-nordic-pavilion-in-venice-sverre-fehn/56fa66bfe58ece8fe4000050-ad-classics-nordic-pavilion-in-venice-sverre-fehn-photo>
- ⁴⁸ <https://www.anothermag.com/art-photography/11704/the-best-things-to-see-at-this-years-venice-biennale-laure-prouvost-2019>
- ⁴⁹ <https://www.dezeen.com/2019/05/22/venice-art-biennale-2019-installations-exhibitions-highlights/>
- ⁵⁰ <https://www.forbes.com/sites/jimdobson/2019/07/13/burning-man-2019-sneak-peak-at-this-years-outrageous-art-installations/#33a6b217485d>
- ⁵¹ <https://ourcommunitynow.com/events/burning-man-festival-hoping-to-go-virtualand-were-not-sure-what-that-means>
- ⁵² <https://weraveyou.com/2020/03/burning-man-still-going-ahead-as-of-right-now/>
- ⁵³ <https://www.radiox.co.uk/festivals/glastonbury-share-map-for-2019-festival-new-areas/>
- ⁵⁴ <https://www.itv.com/news/westcountry/2018-09-17/glastonbury-festival-tickets-to-go-on-sale-in-october/>
- ⁵⁵ <https://www.radiox.co.uk/artists/foals/foals-play-surprise-set-at-glastonbury-2019/>
- ⁵⁶ <https://www.prolyte.com/en/prolyte-campus/blogs/technical-blogs/cantilever-conversations>
- ⁵⁷ http://4.bp.blogspot.com/_IC4iizzvm34/TIQJFb93wI/AAAAAAAAABj4/HYkMoQb0j-4/s1600/Maison_Bordeaux_Plot_FINAL_2-01.jpg
- ⁵⁸ <https://www.archdaily.com/415655/head-in-the-clouds-pavilion-opens-in-nyc>
- ⁵⁹ <https://www.archdaily.com/415655/head-in-the-clouds-pavilion-opens-in-nyc>
- ⁶⁰ <https://www.archdaily.com/415655/head-in-the-clouds-pavilion-opens-in-nyc>
- ⁶¹ <https://www.archdaily.com/415655/head-in-the-clouds-pavilion-opens-in-nyc>
- ⁶² <https://www.archdaily.com/415655/head-in-the-clouds-pavilion-opens-in-nyc>
- ⁶³ <https://www.dezeen.com/2015/08/19/james-furzer-crowdfund-parasitic-sleeping-pods-london-homeless-indiegogo/>
- ⁶⁴ <https://www.archdaily.com/56853/cantilever-house-anderson-anderson-architecture>