# Valparaíso Upcycling Market

MSc 3-4 Methods and analysis | The commons | Chile | Valparaíso Klaske Havik | Pierre Jennen | Óscar Andrade Castro Zhang Zhi | 张知

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Valparaíso Valparaíso



Valparaíso seems to consist of relations between the ocean and hills, the plain and mountains, the sea and the plain, and among each peak of hills. It is a lucky city when its dynamic topography gives people various urban spaces, which cannot be neglected. The difficult topography of hills area limits the city from modernization, but leaves natural views and unique characters to its citizens.

The main character of the city is the citizen. If the citizens are no longer the same, is the city still the same one that used to be so attractive? While the outsiders are moving into the city, the local upper classes are moving out. Who are still here, with their love to their homeland, would rather make contributions instead of escaping from it. It occurs to me that the locals only need space for actions, they enjoy what the city gives, while they are blending in but not rigidly changing the surroundingw. It is inevitable that the city expands. The edge of the city reaches into the mountains without plans from the state. People build their own houses and roads, but these areas are usually dangerous and unstable.

The mountain The wild old grass, settled behind rusty metal, with the homeless pillowing the ground quitting the sky. The decadent structure, bears its angry tusks. From a distance, stand and see, its skeleton, unwilling to be rotten, is dead, with the silence that would be quieter than the cemetery. It is the prison of the mountain.





The plain

movement at the dawn and dusk. Returning to the source, recalling the turbulent memory, when people were fighting for their livelihoods. Did they celebrate the warmth in hands or the long life they could never bid goodbye?

Between the flourishing light,



and sea. Between the incredible blue, is it free? Even with the flying leaves,

the border lies between the mountain

From a distance,

it is the tomb of poems.

The ocean

The burning tide, dances with the mountain breeze. You, the first song of the city, as well the melody every night walks into its dreams. From a distance, you wake up after the last dance upon the wall of metal. It should be the least lonely place, for the warm spring brings the blossom flowers, but the city makes it quiet.





#### Poem

The time in Valparaíso seems a dream to me. I wanted to experience much more in a limited time, so I maximized all the senses. The incredibly blue ocean, spectacularly lively markets, quiet hills and sharp edges of houses invaded my eyesight with colours. I was an interloper and interpreted the city in a way that I want it to be. The boundary of the city became vague. The past and present overlapped with each other while rules and regulation were broken. Maybe, only the chaotic links could describe the city, which connected the ocean, the plain and the hills, as they are the realization of people's willings, my willings.

In the Open city, a utopia for artists, architects and students to build their ideal community by their own hands, I felt the power of poetry for the first time. I could not imagine how poetry and architecture could perfectly combine. Even with one simple word, for instance, "leaning", I could find a huge and upsidedown world. The wet and salty air, the tide and the desert, they moved my position by their unspeakable power, which gave me new directions to observe the world.



From the boundary of the plain and hills, the ocean reaches into the city. Back to hundreds of year ago when the city is born from the port, which is known as Plaza Sotomayor today, obviously memories could be tracked frm the event: trade. Ports expand and take waterfront space. Residents flow to the plain for livelihood, while the hills rest in silence during the day, the waterfront is filled with sounds of metal. Plenty of informal events are happening in the limited plain area.

There are not many connections between each hill, the only public transportation would be bus line 612. People in each hill seem to be satisfied with lives in neighbourhoods and works in the plain. Why bother exploring new areas like other hills? The two most lively places in the city are the plain and Cerro Alegre since one is the economic and political centre and another is the tourism centre.

City visions. Zhang Zhi (2018)

#### Space and events

This section contains theoretical study, observation and reinterpreting relation between events and urban space.

The exercise of event-city mapping contains several public squares on the plain and streets which connect them, a green belt which is close to the coastline, and the edge of the plain and the hill area. In the section Space versus Program<sup>1</sup> Tschumi developed an interesting approach to analyse the relation between events and space: by introducing movement notation into the conventions of architectural plans and sections. In a larger scale, it might be a good approach for event-city mapping.

Information that I collect has been through several stages: the first is the raw materials as the actual experience and the reality of events, which have their own identity as either objective and subjective; secondly they are merged into sketches with narratives explaining it, from which the event-space map is made; thirdly, reinterpreting the social events by drawings, based on Tschumi's approaches.

Robert Chambers criticizes researchers who consider their professions above people's abilities. "... We



('educated professionals') were so fixed on... the belief that only 'we' could make them, that we did not realize how well and how usefully local 'uneducated' people did, and could, make their own." One thing I discovered in Valparaíso is that we should not neglect local people's creativity and their willingness to take charge of their city. Urban spaces, in my point of view, are the best reference of a project which would launch on this city.

Event map. Zhang Zhi (2017)

Tschumi, B. (1996). Spaces and Events, (pp.146-149), Architecture and disjunction.
 Cambridge, Mass.: MIT Press.

<sup>2</sup> Chambers, R. (2006) 'Participatory mapping and geographic information systems: Whose map? Who is empowered and who disempowered? Who gains and who loses?', Electronic Journal of Information Systems in Developing Countries, vol 25/2, p. 3

Public space has been discussed for a long time. The shifting presence of public and private space leads to vague boundary between them. The in-between grey zone which does not actually belong to the public but shared by several groups of people increases the diversity of urban space. Jane Jacobs insists that it is important to have a clear demarcation between public and private<sup>1</sup>, but as time has changed this grey zone turns to be much more significant in the field of architecture and urbanism. The communual space, according to Jacobs, is the extension of people's private lives, meanwhile, they share a part of their privacy in a tolerable proportion in semipublic zones. People are trying to find the balance of being both social and independent, the point in a dense city to live with the public is to share a part of life with them.

Questions follow. How much of privacy would they like to share? In what circumstance would they feel like to share? They seem more like anthropology questions, but in architectural terms, they might be answered by the study of events and space. What matters the most in a city? Jacobs celebrates the diversity of neighbourhoods, small city blocks, building typologies, people and their various events. So does Bernard Tschumi as he emphasizes how architecture is bound to events. "...architecture—its social relevance and formal invention—cannot be dissociated from the events that happen in it." In Richard Sennet's lecture the open city he stresses out how informal events build a lively city, while Jacobs also argues that the city is not as how people design, but how people act. It is reasonable to transfer "public space" into urban events. How people are living is the vital point of a city.

Thus, the commons cannot be simply given programs, the concern of the general public life is required to be a part of it. The character of a site tells the clues since resources which need to be unlocked is potential to activate a certain area. It follows space. Whatever the resources are, either physical or mental, require specific various forms of space, while interactions among people might involve with ambiguous boundary, a boundary of privacy,



Site sketches. Zhang Zhi (2017)

which is differed from people.

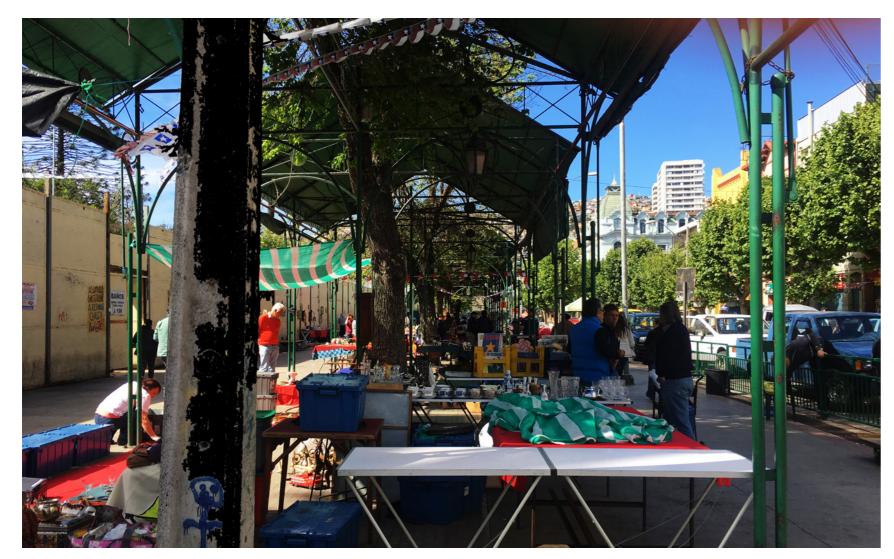
Concerning the site, Valparaíso, where people tend to have informal events in urban space, like street selling, perfectly prove what Sennet talks in his lecture. What Sennet encourages is to keep the positive informal events in public life in order to build a "open city". The main events are happening in the city centre, but informal events are on the edge of each area where flows of people gather. Meanwhile, many left-over spaces are "self-inhabited" into a useful place.

People there, who are not considered in upper class in this country, keep the self-instinct and tradition way to be involved in places. It seems that they still have the desire to "claim" and "create" proper spaces for different uses. Plenty positive proofs can be found everywhere in the city like graffitis, informal markets, artists open studios and so on. These abilities and freedom should not be taken by authorities or states, while it shows potential to invite diverse groups of people also take part in, which helps to build dynamic public life.

<sup>1</sup> Jacobs, J. (1998). The death and life of great american cities. New York: Random House.

Tschumi, B. (1996). Architecture and disjunction. Cambridge, Mass.: MIT Press. p.139

<sup>3</sup> Sennet, B. (2017). The open city. Berlague, Delft. 2017.11.10



Markets of Valparaíso. Zhang Zhi (2017)

### Events on the plain

There are several main public features on the plain: markets, street pedlars, squares, green parks and urban furnitures. This panorama contains most of the events I observe during the fieldtrip. It starts from Plaza Sotomayor, all the way through each squares and plazas on the plain, stops at Plaza O' Higgins. I reinterprete urban spaces and events by trying to merge them together and see a whole picture of them. There is a big potential to discover unique urban space as the commons in Valparaíso for various events, which could be very helpful during design process.Almost all the commercial events are happening on the plain. There are reasons that no market is on the hill, one of them is the difficulty of transportation. Meanwhile, customers gather on the plain, which makes the hills much quieter during the day.

The locals have the instinct to appropriate certain space. It turns out that they are good at it, proved by the lively plain area. Their capabilities cannot be neglected in the project, and they will become an important part of the project as they are the creators of actual space.

There are few important features of communal space on the plain: markets, street pedlars, green parks, open spaces and urban furnitures. They can be integrated into the project by referring to space on the plain. Chances can be made if I play with these features.

Markets have a significant position in the city of Valparaíso. These markets are organized by people or programmed by architects. The tenants have settled territories, in the meantime, these territories form into ordered sequences. These sequences are one feature of public space. One could define that the market is actually a ground for communication, a waiting event for people to attend, and a place which really attracts people.

Street pedlars who are almost everywhere in the city is another important public feature of Valparaíso. Instead of being a certain territory or an architecture, these people form special domains which could be in sequences, but could also be individuals who are separated all over the city.



Street sellers of Valparaíso. Zhang Zhi (2017)



The port of Valparaíso. Zhang Zhi (2017)

People of Valparaíso are good at discovering nice selling spots. They take corners of streets, empty parking spots, front paths of popular shops, the pedestrians where people would have to pass and "squeezed" every single day. The main point of finding places to sell goods is to find the flows of people in the city. It is obvious that these kind of places are mostly busy during the daytime, which increases the chance for even one pedestrian to stop and show interest in the goods.

In this informal way of selling, the thing people mostly concern is whether they could sell their goods out instead of who needs their goods. It is reasonable in Valparaíso the sellers mainly gather in the tourism area and commercial areas. However, the city does not provide them with enough needed enclosed shelters for its citizens, like markets and shops, so people adapt themselves on the streets, open squares and in the shadow of architectures. They could use other forms: the shelter like a cart or a tent, and a territory like a piece of carpet.

From a bigger perspective, it is easy to say that these people would prefer to do their business on the edge of a square or a pedestrian path. But when it comes to details one could find them in the middle of a street where cars could not get in, or just on the plant bed on which they put their grey goods. People adapt to space, but not be limited by the space, they would capture the chances that they could take, which is also given by the atmosphere of this city. Without strict organization, the public space would be anywhere in any kind of forms by the imagination of citizens.

**Squares and green parks** are common public space in the city, they also take important stages in Valparaíso. On the plain, there are several identical squares to be mentioned: Plaza Echaurren, Plaza Sotomayor, Plaza De La Victoria, Parque Italia and Plaza O'Higgins.

Plaza Echaurren is at the location with are many shops around. As the safety of streets comes from people's watch, according to Jane Jacobs, as long as these shops are open, the square is safe to stay. The first impression that



Green parks of Valparaíso. Zhang Zhi (2017)

Valparaíso Valparaíso Valparaíso

this square is the base of homeless people gives one an idea that this square is dangerous, however, people still need to visit the square for necessities. In this case, the locals share the public space with homeless people, since they are in the same community, while the tourists and the middle class might think it another way around.

"People would not use an empty space". This statement is proved in some of these squares, but sometimes local conditions would prove it wrong. Plaza Sotomayor, which in the middle age was the port of the city, should be the origin of its development but turns to an empty square which squeezes pedestrians to the edge of it, leaves the centre for special events, for instance, a concert of a local singer on Saturday morning. People do use an empty space, considering the fact that there was a market, a concert and a bus party happened in two weeks, let alone some protests are started at this certain square. Empty space is a chance but should not be a waste, a parking lot is definitely not its destiny.

Section Panorama - Events on the plain. Zhang Zhi (2017)



Comparing Plaza De La Victoria and Parque Italia it might be obvious that the differences come from their locations. Due to the location of Plaza De La Victoria, it has its pedestrian claimed by the street pedlars, then there are two layers formed in this square: the temporary and self-organized market, with a green park as the core. The same thing also happens to Plaza O'Higgins, one thing which is not the same is whether people initially take the public space as informal events like selling. Parque Italia's location is not as popular as Victoria's, however, this park remains its pure identity when there are not mixed functions.

Markets seem to take the place of the ritual program of squares, which is fascinating. This city cannot be considered as well organized, but it is the mixed functions and the complexity of the city make it lively and organic.

**Urban furniture** is considered as a part of spatial quality. In Plaza O'Higgins, besides the market shelter, there are many chess tables which might just be behind a bus stop or inside

the market. They form special communities like groups of chess players and poker players. In the meantime, the cultural events become an important part of urban space. These urban furnitures do not belong to a certain person or a group, they are common resources in public space for people to claim.

Another typical example of urban furniture would be the fountain at the cross of Victoria and San Ignacio. There are selling tents around them and form an informal market area.

The urban furniture creates the chance for people to find a ground for informal events. For the project, affordances of the commons turn to be hidden in urban furnitures, combining with essential spatial qualities out of general urban spaces.



Valparaíso. Zhang Zhi (2017)

#### Down to the ocean

The second panorama describes the city in a vertical view: from the mountain down to the ocean. It is mostly about essential spaces on the hills and how they are linked. They are viewpoints, the cultural park, passages and funiculars. Open spaces are surprisingly common on the hill, which are differed from open spaces on the plain, mainly they are viewpoints and terminal stations of funiculars. There are also exceptions in the tourism area, some open spaces are taken by restaurant table, and some are taken by individual sellers. An advantage of the altittude is the view point. A fine view point is an attraction to the tourists, and also a communual space for the locals. All the way towards these view points, diverse paths and stairs provide possibilities for people to start events.

Viewpoints are normally on the edge of the plain, which means they are also on the edge of the hills. Valparaíso has this advantage over the beautiful ocean. The edge is where things could happen, the conflict between two different kinds of topography, however, is what people would figure as their place for

public events. These squeezed out margins of hills, which would also connect to popular stairs and funiculars, provide people with the ground to stay, although space is not as large as the squares on the plain. Some sellers sense chances here flows of people would drop by in front of goods since they would love to spend some time here with the ocean and the hills.

The cultural park is a jewel on the hills. Modern architectural concepts as outsiders blend into the surroundings perfectly. People could use it for both formal events and informal events. There is a big potential that it will be a cultural centre of the city eventually. However, there are not many facilities around it, the park seems to be too independent.

Passages on the hills are the most important public feature on the hill area. People's lives are mainly on the plain and inside houses, what link public area and private habitation are various passages. In some areas passages become the ground of musicians, some become the playground of children, some are the canvas of painters. There are hostels, restaurants and collective workshops hiding



Passage Daneri. Zhang Zhi (2017)

here, waiting for people, especially tourist, to discover. Sometimes people gather at the corner or sit on the long stairs just for entertainment. It is common on the hills that people feel even more free to have some time outside the buildings, taking these passages as their urban living rooms.

**Funiculars** are vital to this city. They effect the city in many ways, not only do they transport, but also have unique aesthetic qualities. These two main specialties attract people and trigger events. The most famous one, Funicular Victoria, proves it with the dynamic urban lives on Plaza Anibal Pinto and tourism area the Cerro Alegre.

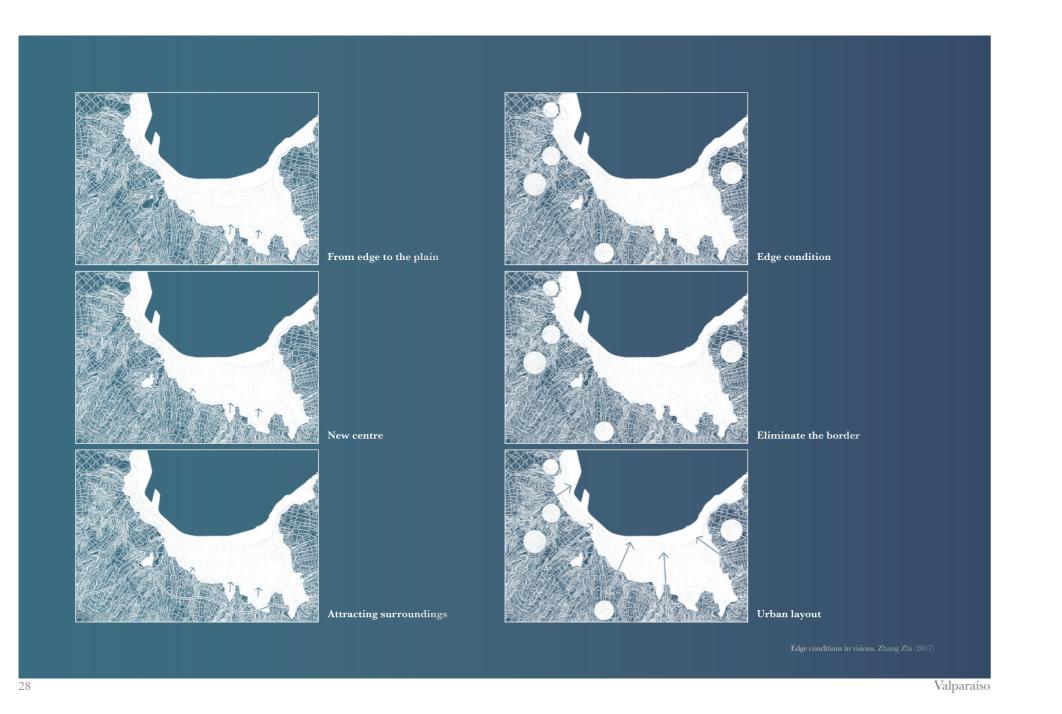
Section Panorama - Down to the ocean. Zhang Zhi (2017)

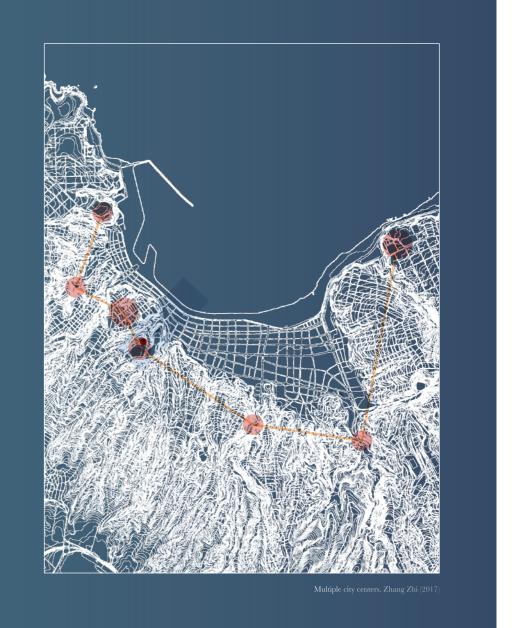
#### Urban strategy

Urban strategy comes from the concern of the ecological border of Valparaíso, and the decay of coastline public space. With the previous research about the segregation in Valparaíso, if I hypothetically "put" a city centre on a contradicted spot, will the character of a city centre eventually activates the surroundings, triggers new urban lives and more or less eliminates the segregation?

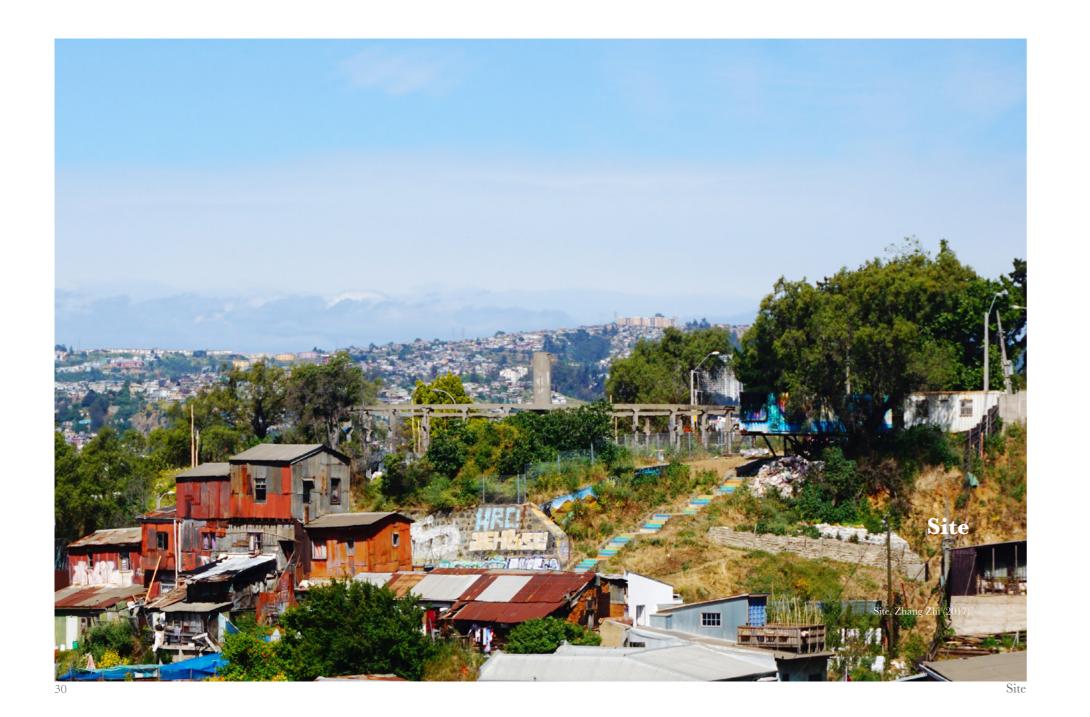
Based on theories from Richard Sennet about edge condition, my urban strategy contains the idea of organizing a new city center on the edge of hills and plain, where people meet and interact. However, in the future plan, more centers would be built, in between of each center the locals would fomulate their own access from one center to another, in this way a liner connection between city centers is formed, eventually a new city layout with multiple city centers is built. Along with the expansion of the city itself, the centers expand.

I believe in this way there would not be only one main routine of people that they usually transport up and down the hill, but locals and tourists would share different routine and finally meet somewhere both on the coastline, the plain and on the hillside. With the ongoing expansion of Valparaíso, this strategy could benefit the border and hills, as well as the expanded area on the top of hills now and in the future.





Valparaíso 29





Site

#### Location

The abandoned water tank structure *Estanque Site*<sup>1</sup> is located at the edge of the plain and Cerro Cárcel, near Valparaíso cultural park. It is a great location while the tourism area Cerro Alegre with its Funicular Victoria is just one quebrada away.

The project starts with two questions. What makes a market on the hill area successful as the commons of its surroundings? How can a market become a new city centre of Valparaíso? The location turns to be one crucial precondition. Through the field trip, as Valparaíso Biennale 2017 is held in Valparaíso cultural park, I had the chance to observe its surroundings. The abandoned cylinder structure catches my eyes, because of its beautiful skeleton and perfect location for both the idea of a hill market and an identical city centre.

The cylinder was a former water tank but now it is full of garbages and filthy water. It is quite obvious at its location that almost at all directions people would notice it. For instance, tourists who visit Cerro Alegre by the funicular **Ascensor Reina Victoria** will have an interesting experience observing it all the way from the plain to the terminal.

With the help of Valparaíso cultural park, there is a big chance for the "upcycling" market here to be cultural and educational. Meanwhile, there is a hidden viewpoint which has a beautiful view of the sea and hills, but it is covered by grass when people could hardly go through. In the future project, there will be a nice platform for visitors to the market.

Also, it fits the theory from Bernard Sennet as it is in an edge condition. Considering the relation between the Pacific Ocean and the inner sea of Valparaíso, a market here can link each side in a visual and physical way. The view of the ocean and the mountains fill the sight at the same time, while people working on the plain and people living in the hills gather. In the meantime, it links the past and present, the lives and the deaths, because of the cemetery **Cementerio Disidentes** besides it.



Site. Zhang Zhi (2017)



Site. Zhang Zhi (2017)

People are going to build a new cemetery outside the city, which makes what remains very precious. The lively characters of the market and the quiet characters of the cemetery seem to have chemistry with each other. You can imagine the deaths in the cemetery hear the market, which is an important fragment of the whole city, while people in the market can easily see the cemetery from the market. Here it comes the poetic moment between them as they are having conversations in silence.

From the cylinder there is a path all the way down to **Atahualpa**. However, years ago there were two. Daneri is now closed by residents, due to it seems to appeal drunk people and the homeless. This area has lack of organization, which can be provided by the market in the future if it is turned into useful common spaces both sides would benefit by the dynamic graffiti on the wall of each housing and the explorable space of Atahualpa and Daneri.

From Avenue Ecuador, which is a street of bars and restaurants, people can easily

locate the cylinder. Since this "night street" is so lively during the evening, what the market can provide from the upper hill is fun to think about. Special light shows during festivals are options, as well as tourists who are attracted by the market.

1 Plan C. (2013). Concurso de anteproyectos Reconversion Sitio Estanque-Segundo taller participativo (=Contest project reconversion Site Pond - Second participatory workshop). Retrieved from http://www.plancerro.cl/single-post/2013/06/29/ Concurso-de-anteproyectos-Reconversion-Sitio-Estanque-Segundo-taller-par-



Site. Zhang Zhi (2017)



In this section the panorama shows a fantacy of each spoted places around the site. The space is twisted, disorted and eventually merged together into a castle of "cylinder".

Panorama of the site. Zhang Zhi (2017)





The End of Sitting. Jan Kempenaers (2014) Retrived from http://www.raaaf.nl/en/projects/927\_the\_end\_of\_sitting

#### The commons

The commons, known as space with resources which are shared with its surroundings, requires various communal actions happening there.<sup>1</sup>

At the beginning, the concepts of the commons and public space are so confusing. Later the commons shows up in a new category which is linked tightly to the two important terms as the common resources and communal actions. Thus it is important to understand the potential resources on the site and diverse events in the city. The relation between resources and actions could not be neglected, neither does the relation between events and space.

A further resource of the commons turns up as affordances, while a deeper character of it is named as symbiotic space in my interpretation. The affordances in its definition is the possibilities for action provided to an animal by the environment.<sup>2</sup> It could be regarded as a resource of the environment which allow interventions from people. Events, people and space form a circle while these three terms change by the time by influencing each other, which makes the space symbiotic.



A common setting in the open city. Zhang Zhi (2017)

#### The affordances of the commons

In the term of the commons, the affordances become the resources which could be unlocked by people who have the skill to appropriate it. There are two aspects of its definition, the environment and people, they are independent with one another, but the actual actions rely on both of them.

In the experimental project *The End of Sitting*<sup>3</sup> from RAAAF, the designers use ergonomics tools to form the space in order to let people explore how this setting could be used in various ways. Instead of a shelter for practices, this setting performs rather like tables, chairs and beds. In general comprehension, people would consider a shelter as architecture but not tables or chairs. What RAAAF tries to achieve is to integrate different affordances of many types of furniture into one setting but still keep the concept of "playing with space", which in my understanding is one of the cores of architecture design. However, in the project space seems to be settled into a finished form.



A shelter in the open city. Zhang Zhi (2017)

The debate between form and function lasts for a long time. According to Sennet's description, programed architectures have "a rigid fit between form and functions". However, there should not be a perfect match of form and function, since it impedes new chances if space needs to face future situations. In between form and function, there is an ambiguous area while the actual practices adapt through time. In the End of Sitting, people take part in the space. What if it is an urban setting? There is a big chance that the form of this setting would be rather different and it can hardly be considered "finished". The unfinished stage is obviously one important character of the affordances.

Spaces provide possibilities for actions. Actions form certain common spaces. The potentials are hidden in the new form of space. By inviting groups of people the diversity of practices becomes richer. "Typically these inventions build upon the abilities and affordances already available in the various practices. They exploit the rich potentialities the environment already offers, for instance by making new combinations." It implies whatever kinds of practices affordances and actions influence would create new possibilities, thus it is important to



The cemetery in the open city. Zhang Zhi (2017)

realize the affordances of the commons, in other words, spatial resources are generating endlessly. "The realization of a design is not the end but rather the beginning of a new situation or development."

The society is developing rapidly, it also does not allow the city to grow slowly, especially in a city like Valparaíso where many problems remain to be solved. In different scenarios a space has different presences, in real life, a market might be a parking lot because of politics. The continuous process provides chances for a project to develop but not "finished". Space and events, in this case, are symbiotic.

The variety is obviously symbiotic spaces' advantage. I am not defining whether it is good or bad. Space is definitely a middle word. Where the chances would lead the space to needs to be concerned. What kinds of events take place here define the space and provide ranges of possibilites, as well as the limits. Actual practices, involved with the society, the locals and the experts, define the future of the

commons. If the goal is to have a temporary but dynamic place when considering its position in the city, it should not be neglected.

In the concept of the commons, there is one thing always important in contemporary society: co-product. It might influence the future direction of a project. Not only to have specialists working together, but to have functions performing interactively. Programs should not be existed isolatedly, while multiple functions might have chemistry with each other and create new possibilities. For instanse, how could markets and education benefit the harbor area of Valparaíso? By introducing traditions to the youngers while providing meaningful tools, there is a big possibility to absorb the locals gather. Chances which are given to teenagers and elders are also given to the city itself. Events here are also symbiotic.

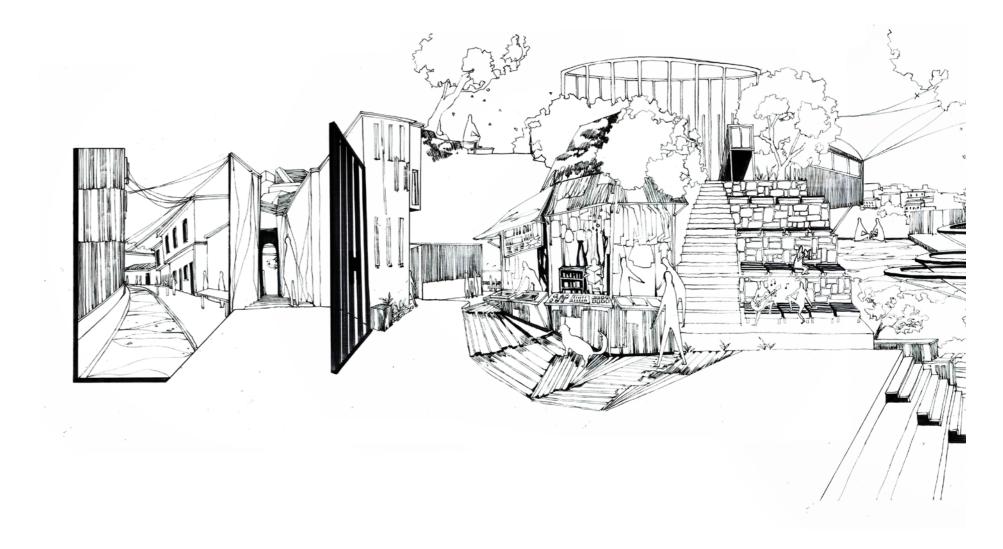
- 1 Avermaete, T (2016). The Architecture of the 'Commons' Towards a New Denition of the Architectural. Architectura in nederland: Jaarboek 2015/2016 = architectura in the netherlands: Yearbook 2015/2016 (Architectur in nederland) (R. Jong-Dalziel, Trans.). (pp. 36-43). Rotterdam: Nai010 uitgevers/.
- 2 Rietveld, E. & Kiverstein, J. (2014). A rich landscape of affordances. Ecological psychology. 26:4, 325-352, DOI: 10.1080/10407413.2014.958035 p. 325
- 3 Rietveld, R., & Rietveld, E., & Mackic. A. (2014). The End of Sitting Retrieved from http://www.raaaf.nl/en/projects/927\_the\_end\_of\_sitting
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- 5 Rietveld, E., Rietveld, R., & Mackic, A. (2014). Strategic interventions as a design approach = Strategische interventies als ontwerpbenadering. In Vacancy studies: experiments & strategic interventions in architecture = experimenten & strategische interventies in architectuur (pp. 79-116). Rotterdam: nai010 publishers. p. 83

#### Project vision

The upcycling market is not only in the cylinder. The surroundings also count. Once Daneri opens to the public during the day time, the market would benefit the residential street while it brings energy and safety to these housings. Where used to be a homeless land will be the lower view point platform. By the time people walk to the upper view point, there are small shop carts all the way along. An open space might be aside from the stair, while people use pallets as their seats and additional steps. Reading and playing musical instruments are possible here, more cultural events which can help build leisure atmosphere will be introduced here on the stairs.

These two platforms would be connected by outside urban stairs as well as inner staircases which lead people to the market. The market will be built by upcycling materials and techniques that local studios use. The studio Minga provides many inspiring building techniques in their presentation. By using cheap local materials and upcycling waste, the market can recycle by itself and have local people involved in its building process. The whole process would also result in a educational propaganda of upcycling waste. For example, the walls are made from glass bottles and wood pallets, the shelter is

Panorama of project visions. Zhang Zhi (2018)



made from second-hand cloth, the ground is covered by broken wood pieces. These low-cost materials create a unique local atmosphere in the market, which would be an identical attraction for the tourists.

The container beside the former water tank is transformed into an exhibition box or a service room. Its doors and windows are old window frames. This box can be a shelter while the weather turns bad, or some important meetings did not book a proper room in the cultural park.

A theatre would be launched in the cylinder. Audiences enter the open theatre by the stairs hidden in the mountain, the paths get light from several openings at the height where people cannot reach. Pieces of broken materials may possibly be designed as ground cover, the mosaic tiles can be random patterns, but children have the privilege to play with it.

One important element: the circle should be studied and used into space. Smooth lines will be perfect for people to sit or lie. Circling always gives me a dramatic and dreamy impression, it has both lively and quiet characters. The echoes of objects are presented by circles, while it also helps people to focus on a certain space.

There are various possibilities on the site. With the help of the topography, the market is going to be successful.

This vision drawing was finished before the design started. However, there are many kinds of space in this vision are achieved in the final project. During the design process, I kept it in my mind to value the vision with the site and core concept.



Waste is an important resource in Valparaíso. In the documentary *Valparaíso Inamible #Guarenísmos*<sup>1</sup> shows the situation in this city, while people present different ideas of prevention and generation. In this section, I collect information from this documentary and internet sources.

As a matter of fact, Chile has organizations like Ministerio del Medio Ambiente which take the responsibility to dispose of waste and set plans for waste recycling. In MMA's website, it lists wastes that could be recycled and the spots which take wastes in each region. Valparaíso has multiple waste disposing sites, which contains glasses, PET plastics, batteries, paper and paperboard, cans, carton for drinks and small electronic appliances.

A glance on the street in Valparaíso. Zhang Zhi (20

Waste as resource 51

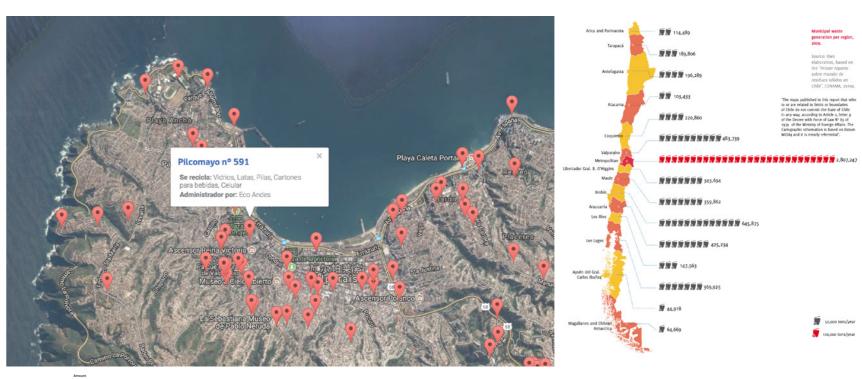
<sup>1</sup> Una producción dereojo comunicaciones. (2016, September 1). Valparaíso Inamible #Guarenísmos [Video file]. Retrieved from https://www.youtube.com/ watch?v=Lv6W3ZkgXlE

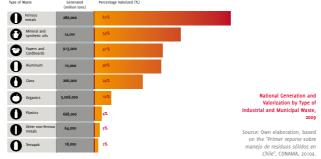


#### Research

A citizen Valentina Guajerdo points out in the documentary that sanitation is not a problem which could be simply solved by garbage trucks and rigid propagandas. It needs educational plans and cultural plans. Sebastián Ibacache also stresses out that it could be a chance to turn garbages into a profitable business. They are not the only ones. Boris Kúleba collects information from various citizens in different disciplines and classes, which show the enthusiasm and the strengths from the locals.

However, waste recycling is no longer a better way to deal with trash because it would more or less decrease the value of materials. The key to keep or even increase its value is to use wastes as materials in other products, which is also the ideas from the citizens. Upcycling seems to be a better word to describe this process. The market is also upgraded with a specific program: upcycling the waste.





Different recycling spots in Valparaíso. Retrieved from http://rechile.mma.gob.cl

Municipal waste generation per region in Chile, 2009 -Retrieved from http://www.mma.gob.cl/1304/articles-52016\_Chapter3.pdf

National Generation and Valorization by Type of Industrial and Municipal Waste, 2009 Retrieved from http://www.mma.gob.cl/1304/articles-52016\_Chapter3.pdf



The sanitation workers have to carry garbages up and down the hills with unfair salaries. Authorities do not give them the same right to be a part ofmunicipal council meetings.



It is easy to find garbages around signs or telegraph poles.



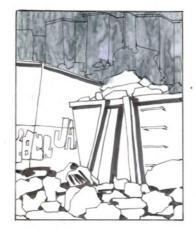
The government makes the trucks colourful in order to make the sanitation work a propaganda.



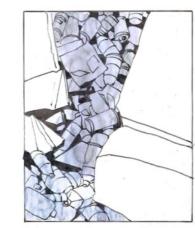
Some fine potential materials are throwing away because the former owners could not realize its value.



Dump sites are filled with garbages waiting to be recycled, somehow the dumpsites are not as organized as it is in imagination.



What can few truck do when there are too many garbages and people do not want to walk even a bit further to sort waste?



In between al most all the shadow place it is easy to find many garbages.



are spots which take these wastes.



Woodboard, paperboard, bamboo sticks, big pieces of tiles...They could be more useful.



Big garbage trucks seem to effect the neighbourhoods in a bad way. They are also only existed at where the cars could reach. What about the unreachable places?

Current situation in Valparaíso

Una producción dereojo comunicaciones. (2016, September 1). Valparaíso Inamible #Guarenísmos [Video file].

Refered from https://www.youtube.com/watch?v=Lv6W3ZkgXlE



Trash dumped around the structu. Zhang Zhi (2018)

#### Upcycling as a program of the project

One core in this section is the waste as a resource. The market provides three ways the waste performs as a common resource:

- 1. It could be architectural materials, which means the market itself is partly built by wastes. It could help decrease the building cost, and it is also easy to find replace material in the market if any damage occurs.
- 2. The waste is the product and the materials of new products are sold in the market. According to the current situations in the city, if people realize that they could earn money from the market, there is a big chance for them to gather here instead of throwing them. People who buy useful wastes can also be sellers if they make them into products.
- 3. It is not only a physical market but also a market which sells knowledge and technology. Chile has many studios which own skills of upcycling waste, referring to the book Redo the Undone: Material upcycling in architecture, art and design<sup>1</sup>. These studios may gather here delivering lectures or giving courses to the

public, while the market has the capability to absorb relevant people.

The opportunities for this market are obvious:

- 1. It put the industry into a good circle as dimensions of materials are discovered, and eventually, make materials more than "reusable". Products come from the waste, while they change identities and show up in a new form. The waste as a resource is unlocked.
- 2. Education of upcycling can be overspread by the market's original characters. Interactions between sellers and buyers, artists and audiences, experts and learners gather together in the space which is also built on the same concept. Conscious and subconscious education happens at the same time.
- 3. It makes a reduction of waste and the costs to deal with it. Moreover, it also lowers the cost to buy new materials for certain products while people can simply find cheaper replacements in the market.

4. It can be an identical market in the whole city that the tourists would not miss if they visit the city. Thus, the goals of gathering different groups of people together and pushing forward the trade in the city are achieved. An identical city centre is formed.

Upcycling the waste makes selling and buying expand to more educational level, while the whole city would be benefited from this upcycling market. It would be a vital aspect of the project.

<sup>1</sup> Fundación Basura. (2017). Redo the Undone: Material upcycling in architecture, art and design. Santiago de Chile. STQQ editorial.

Reptilia, Valparaíso Author: Tetralux Architects Upcycled materials: Milk packages

Precedents in Chile and worldwide

Fundación Basura. (2017). Redo the Undone: Material upcycling in architecture, art and design. Santiago de

Una producción dereojo comunicaciones. (2016, September 1). Valparaiso Inamible #Guarenismos [Video file]. Refered from https://www.youtube. com/watch?v=Lv6W3ZkgXIE

Pallet theatre. Retrived from http://refunc.nl/?p=2416#content-wrapper

org/story/30-000-pizzas-by-farwaste/

30.000 Pizzas. Retrived from https://superuse.

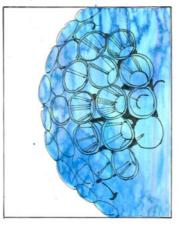
Chile. STQQ editorial.



La Bolsa Loca,
Santiago, Metropolitan Region
Author: La Bolsa Loca
Upcycled materials:
Plastic bags, tetrapack packages, plastic
packages, etc



School of music in Papa Nui, Valparaíso Author Toki NGO Earthship Biotecture Upcycled materials: Tires, glass bottles, cans



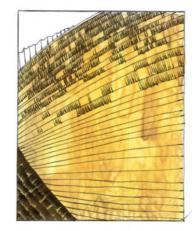
La Bolsa Loca,
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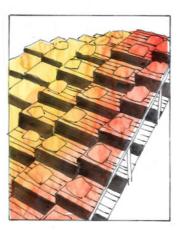
Proyecto Minga, Valparaíso Author: Minga Valpo NGO Upcycled materials: Plastic and glass bottles, cans, pallets



Fabric fence, Valparaíso Author: Unknown Upcycled materials: Fabric, cloth



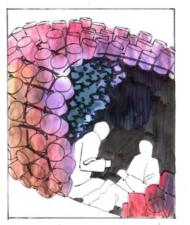
Wicker Membranes, Itinerant Author: Andrea von Chrismar Upcycled materials: Wicker



Theatre Pallet
Author: Refunc
Upcycled materials:
Pallet



Okuplaza Antofagasta, Antofagasta, Antofagasta Region Author: Ciudad Emergente NGO Upcycled materials: Tires



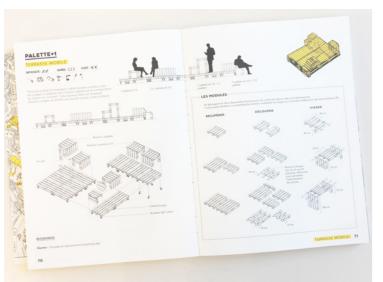
30.000 Pizzas, Turin Author: Farwaste Studio Upcycled materials: steel cans, plastic cable ties

### References

Redo the Undone: Material upcycling in architecture, art and design Manuel illustré de bricolage urbain Buurman workshop Rotterdam











Hanging book shelf - Buurman workplace. Zhang Zhi (2018)





#### Mass and views

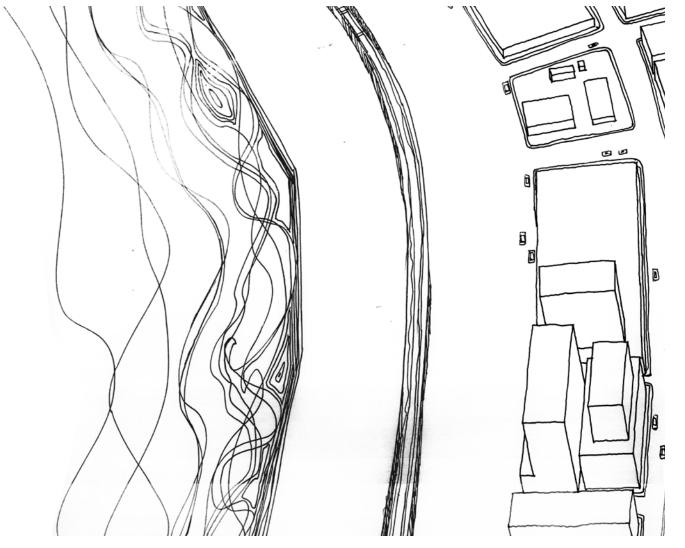
The location benefits the building in different ways. The altitude gives the building possibilities of viewpoints where tourists would visit, while on the ground floor the market helps to increase conversations between the locals and tourists. When standing at the platform area, people would feel closer to the ocean with a physical barrier, that has nothing to do with demolishing any part of the plain, however, shortens the distance from the sea to the market.

When designing the space of the building, I make the routine in a circular loop to break the sharp edge of the hill, expand the "public area" of the building. By squeezing people in narrow path and release the space in the next area, visitors would have the feeling that they are walking in the urban space instead of walking into a building. These spaces are referring to the real urban space that I collect in research. I link the building routine to the urban space, in a way lead unexpected interactions (which are quite normal in the city) into my building. There would be no sharp distinguish of this waste upcycling

market about where is the landscape and where is the architecture, they are merged into one urban space.

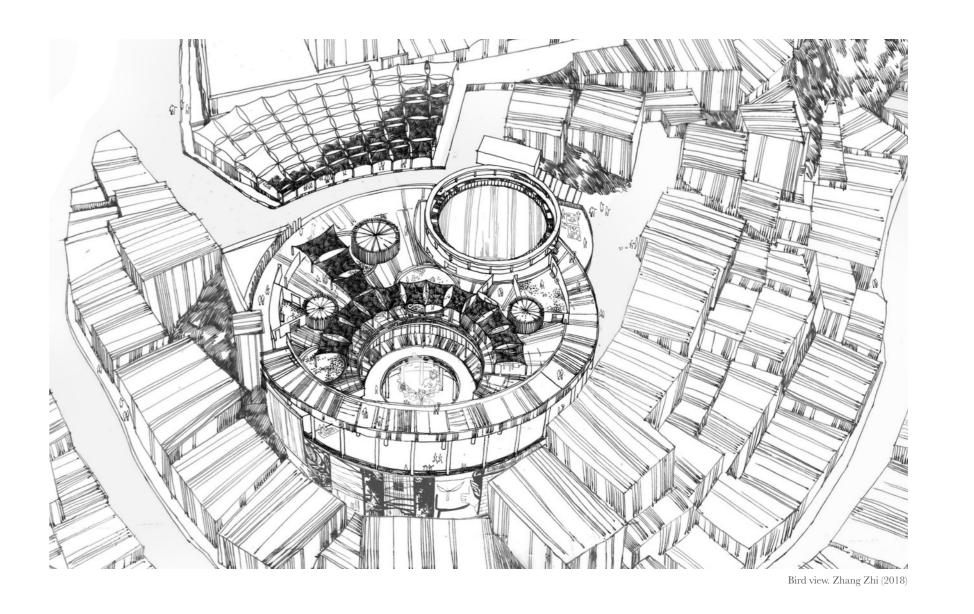
People from other area of the city could reach the market by the same routine to Valparaíso cultural park. However, once the market is open, Passage Daneri, which used to be a public passage, will be open again because the public area increases the safety of its surroundings by the watch of people.

From research of affordances, many soft and open divisions of space are created. Shelters, sunken round squares, columns in grids, slight height differences, open small yards and a beautiful curved bridge, these elements follow the same principle as the building, but in various materials and scales. Events are allowed to happen in there centralized space located in different directions of this round building, which has no direction and hierarchy, implied the freedom of acts that people can have on site.

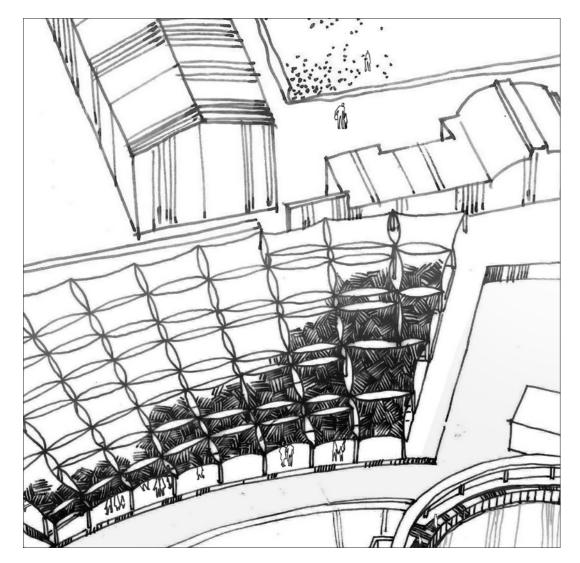


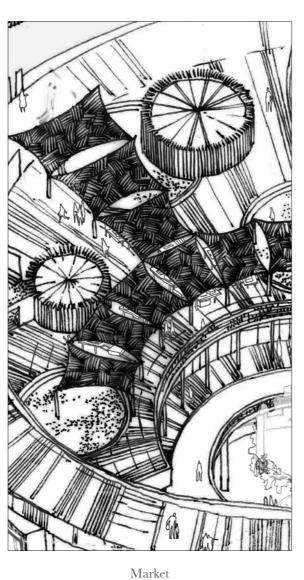
Bird view. Zhang Zhi (2018)

Market Market

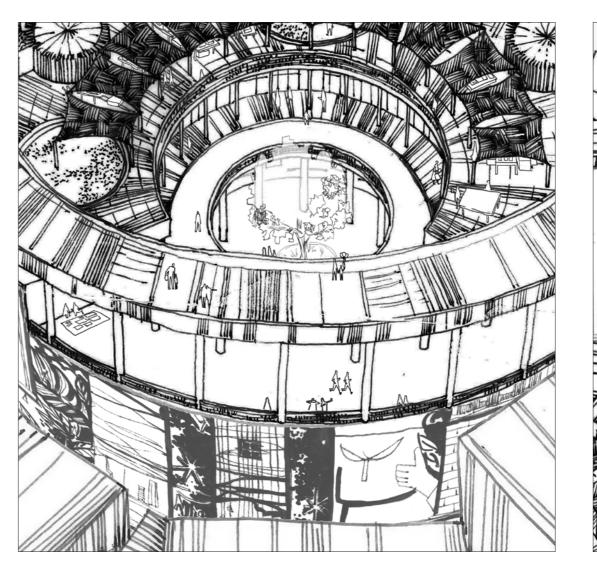


Market Market

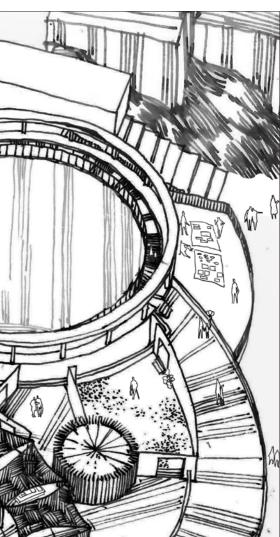




Market in front of cultural park





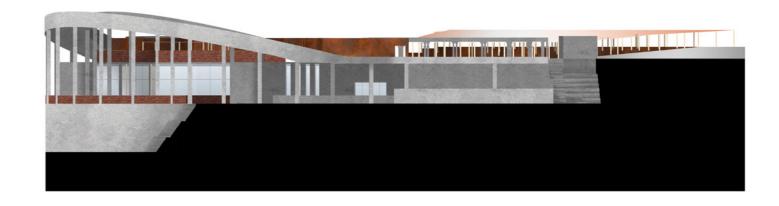


Water tank and rest space

Market Market



View from cemetery



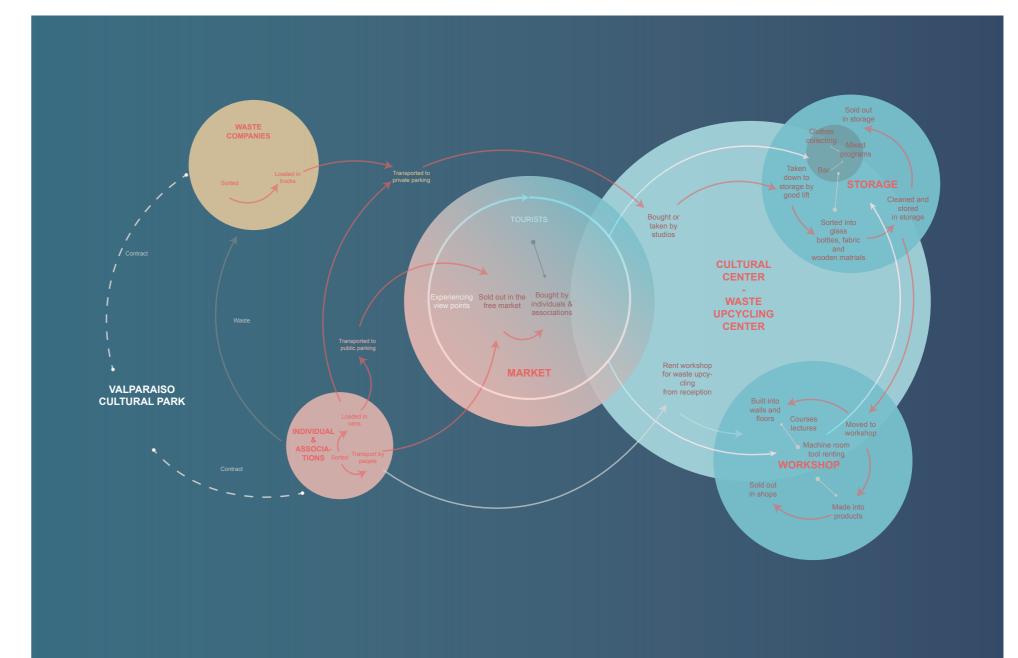
View from Cerro Alegre

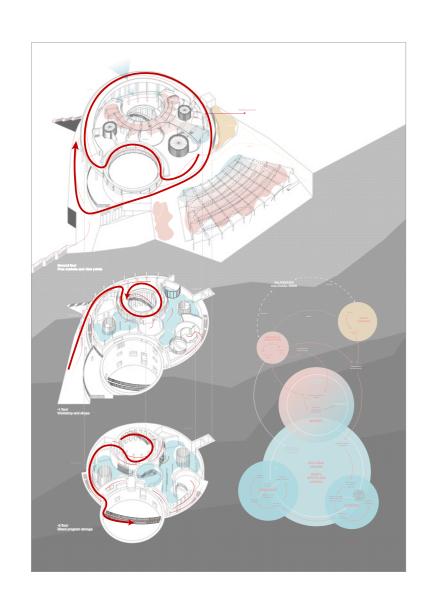
### Flows

There are two flows that are worth mentioned: the flow of people and the flow of materials. These two flows interweave with each other, but there is one main rule of positioning the routine: people travel on the edge of the circle, when the waste materials go into the heart.

By considering the waste flow, certain programs are required. Local waste companies and selected individuals make contract with the cultural park, and transport the sorted materials to the private parking area by vans or trucks. By a good elevator materials are transfered directly to the storage space. Crews of studios, who are working in the workshop, will help clean and store materials into three main areas: glass bottles, fabric and wooden materials. From storage area, crews get materials and make product in the workshop, while the locals buy materials for personal use, all the products will be sold in the shop on -1 floor and the free market on ground floor.

People visit there take the external circulation to experience the landscape and the building, while crews and workers join the internal circulation. These two circulations take the outside and inside of the circle.



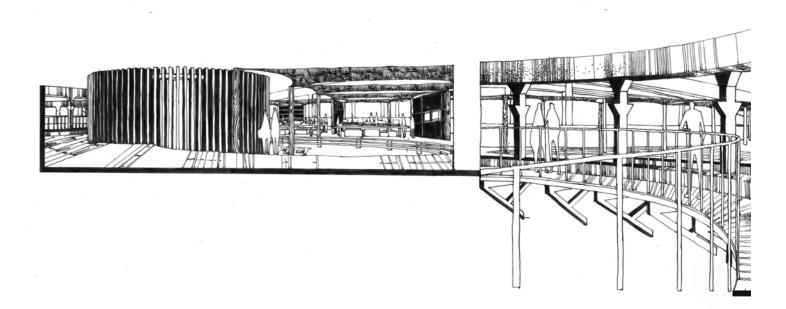


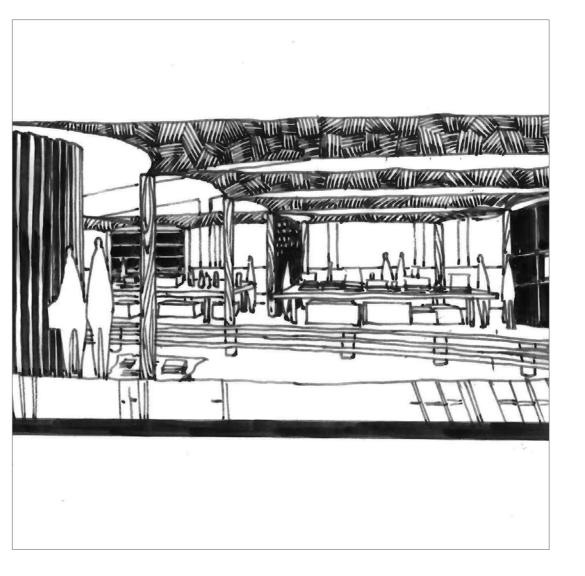
# **External circulation**

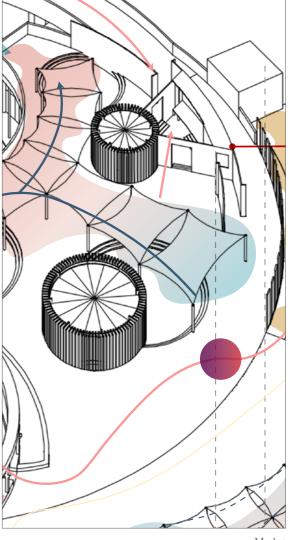
The external circulation starts from the free market, where visitors' sight is filled by various event and colors of market shelter. The water tank attracts people with its unique features. The path is circular which leads visitors to the bridge. The bridge lifts people up to the highest viewpoint where the ocean, the city, the market and the cultural park are fully viewed. It is one main element of the project that extends the presence of the building and shortens the distance between the hill and ocean. Another side of the bridge leads people to the main entrance. Following the external circulation, people go down to the next level by the existing stair which has platforms for reading and resting.

The viewpoint on -1 floor has an open space, where people could enjoy the city in another view. The structure of the bridge is exposed on this level. Entering the courtyard in front of the workshop, there is an outside corridor which provides a complete view of the bridge and courtyard.

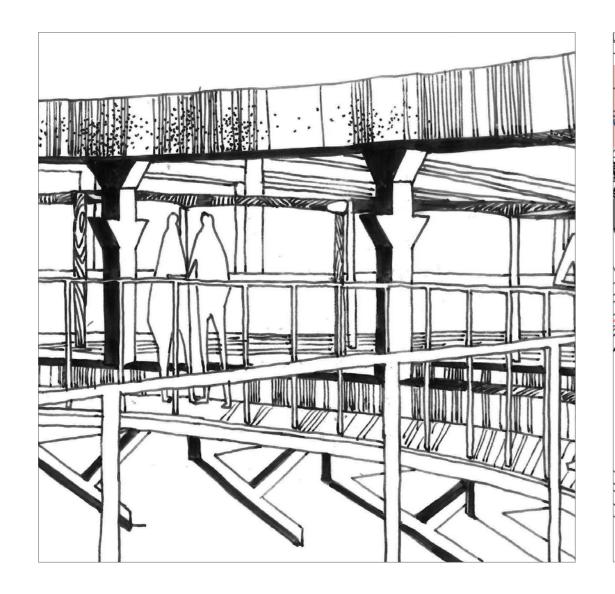
From the courtyard, people could enter the intimate courtyard space on -2 floor by a spiral stair. On the same level, there is another path inside the water tank that people could reach.

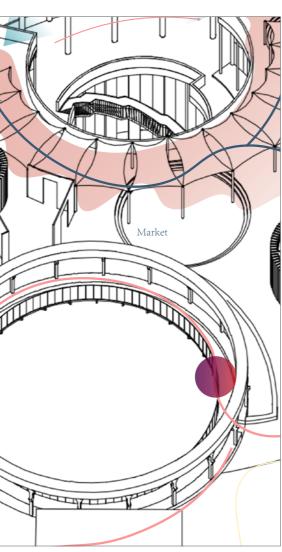




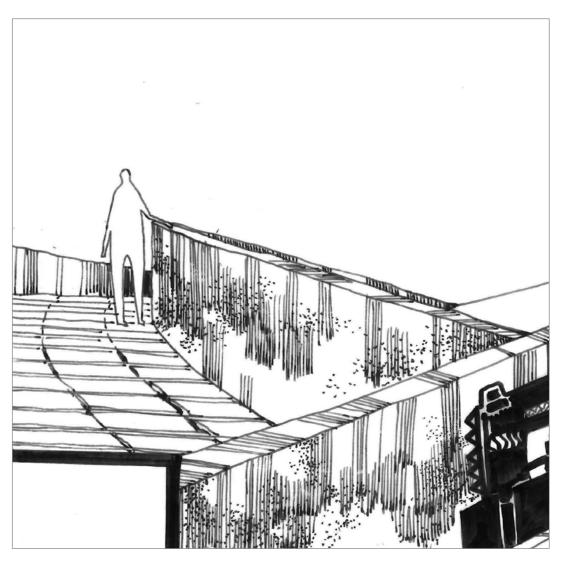


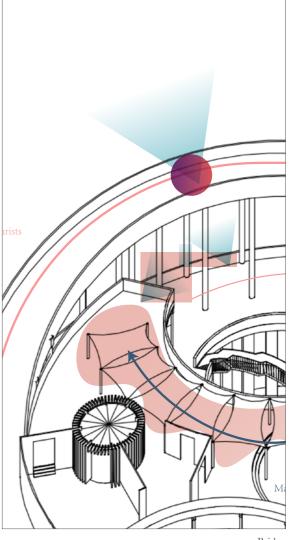
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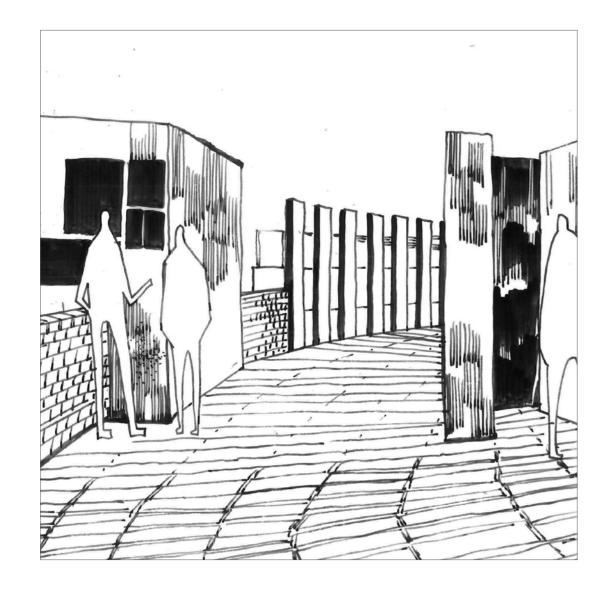


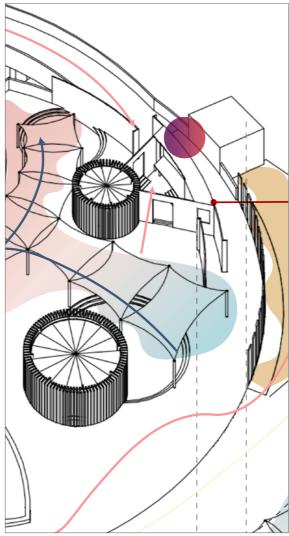


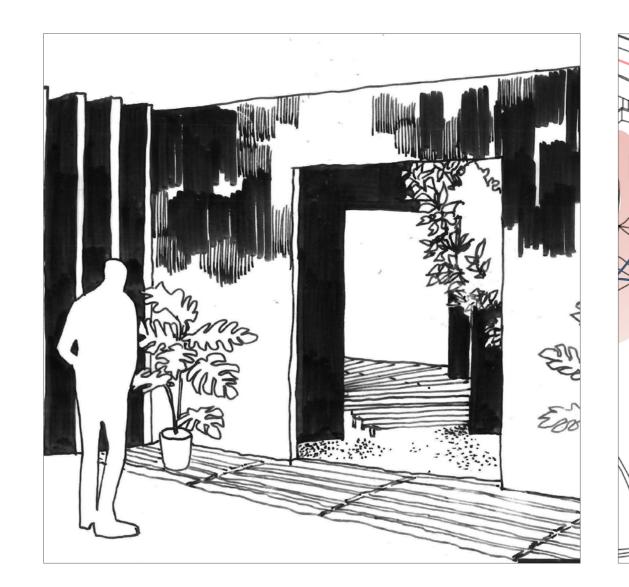


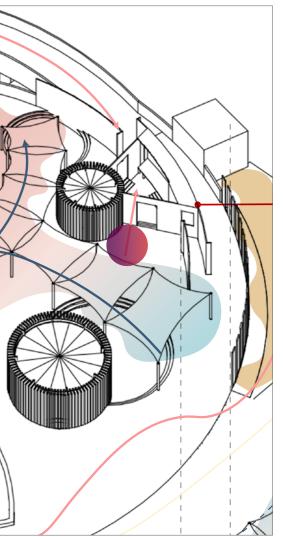


ridge

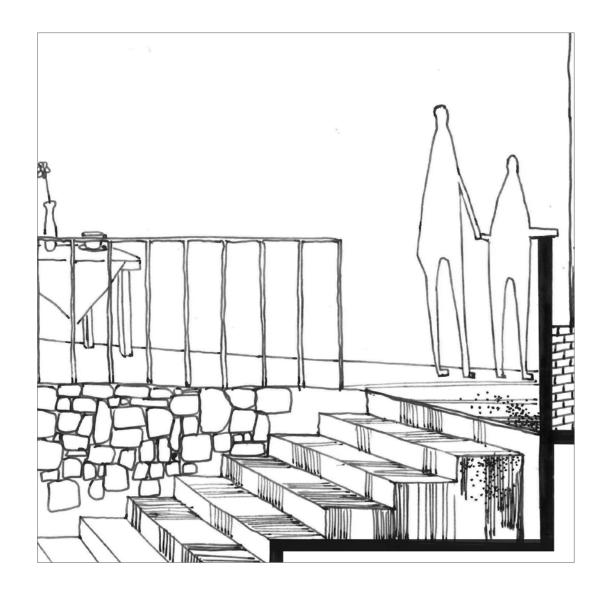


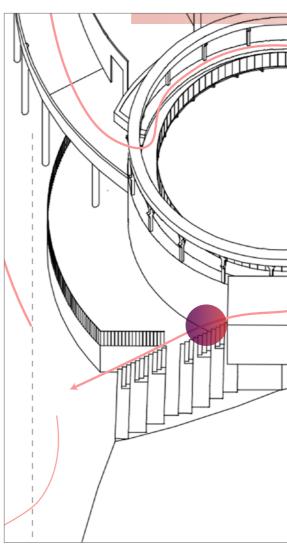






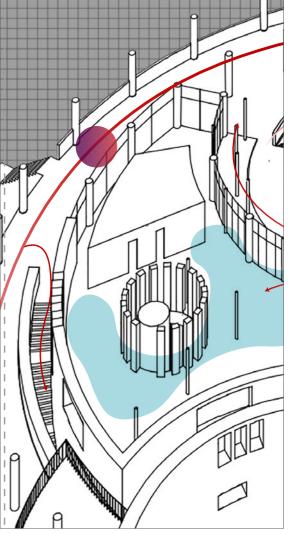
Entrance cort yard



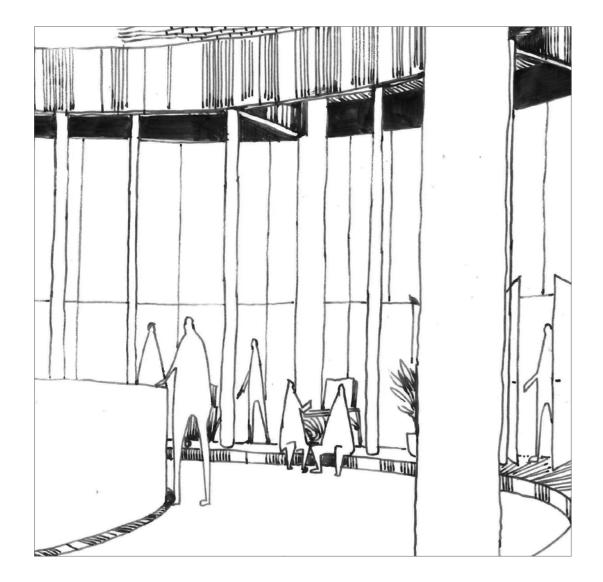


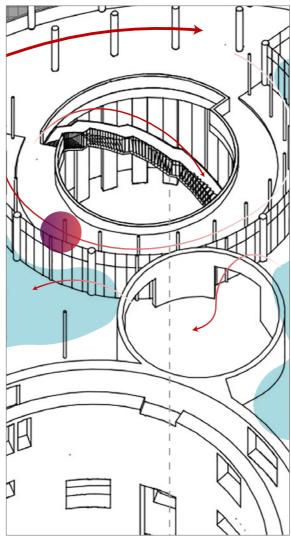
Step platform

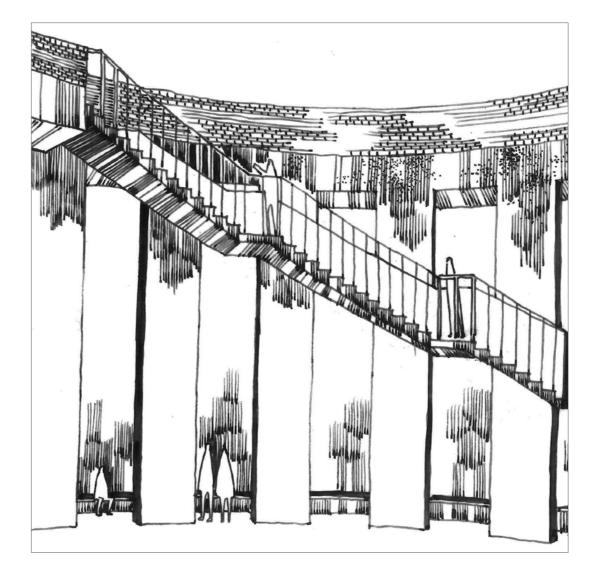


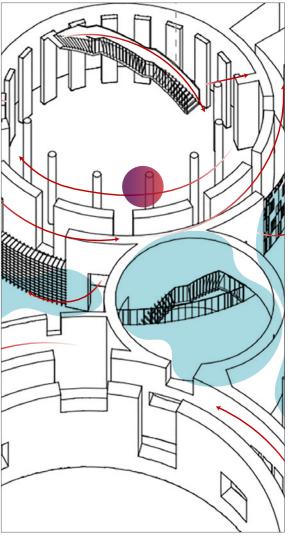


Under the bridge



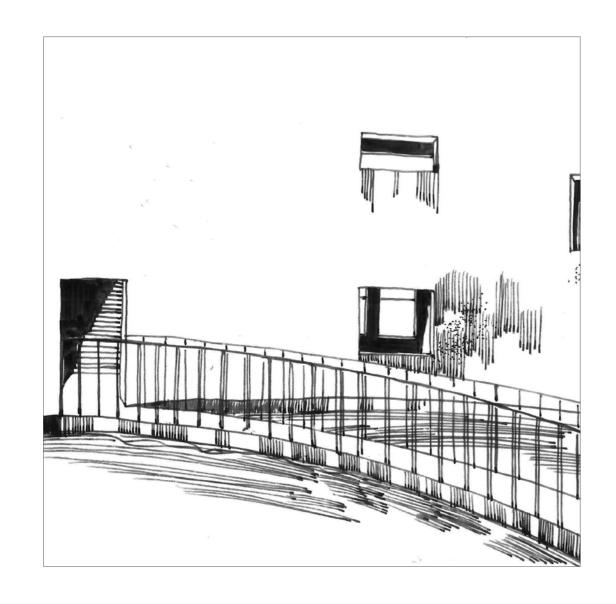


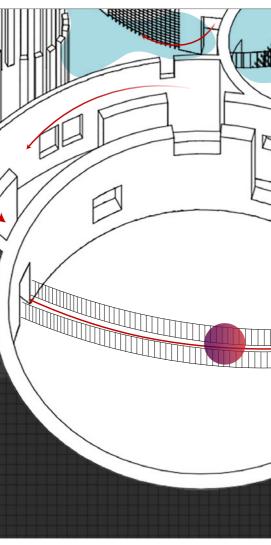




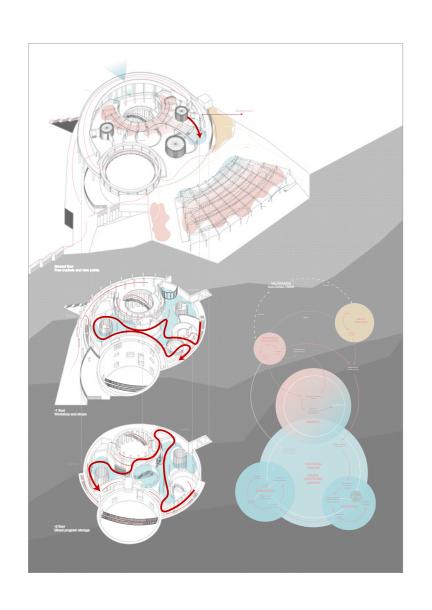
Courtyard stair

Courtyard





In side the water tank

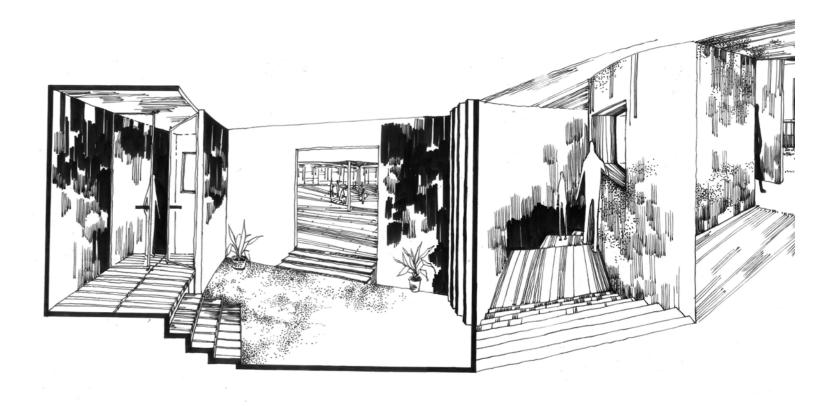


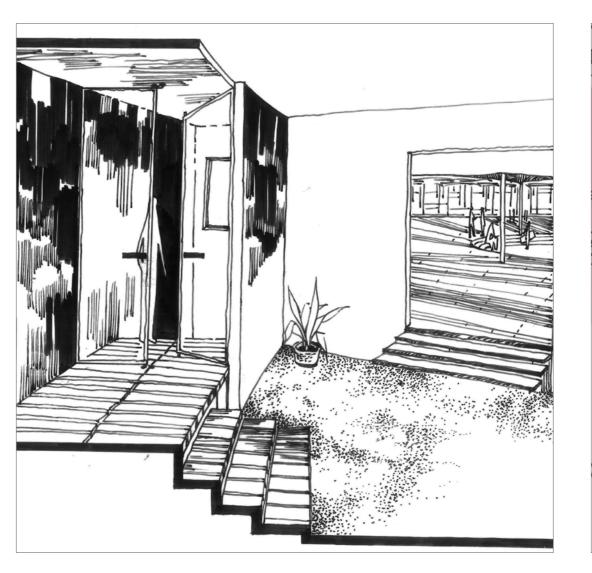
# Internal circulation

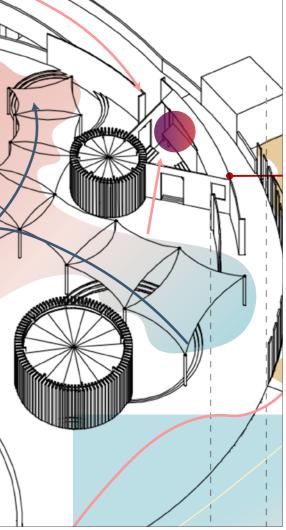
The main entrance is hidden in one of the courtyards on the market floor.

The staircase on the edge of the circular mass has a narrow space, it follows the same rule on the city that narrow paths lead people to open spaces. By this staircase, people reach the reception, from which the way to the workshop would be easily found. In the workshop all the tables and chairs are supposed to be moveable, thus studio crews have the freedom to change the way of using this space. Going through the lecture hall, people enter the shop and buy souvenirs that are produced in the workshop.

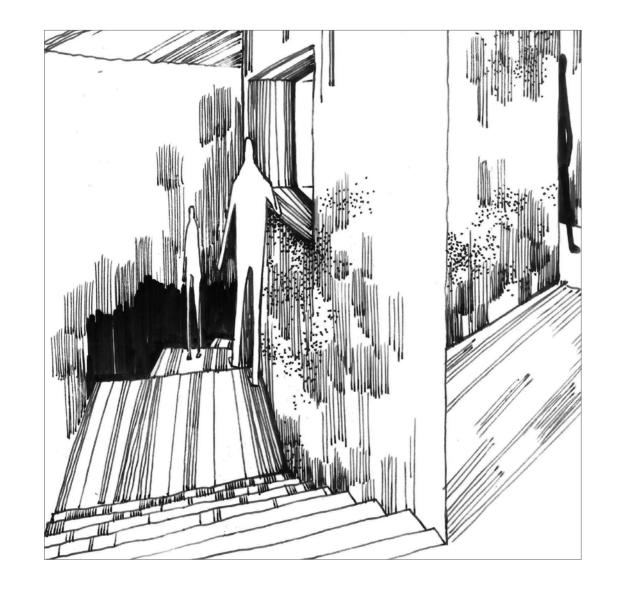
From the same semi-outdoor staircase, visitors would find their way towards the fabric storage, where people collect fabric and donate clothes that both become materials and spaces. Wooden material storage contains walls that made from window frames and wooden panels. On the other side of the building, there is a bar that in the same space of glass bottles storage. From this chamber, people could enter the intimate courtyard again. The routines connect with each other, which makes the circulations infinity.

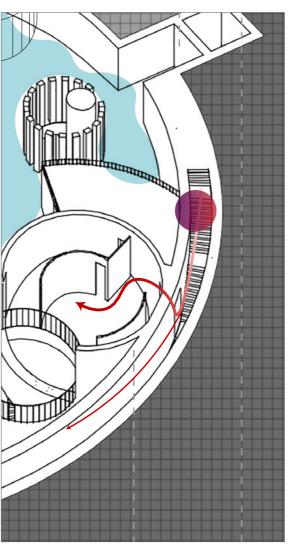




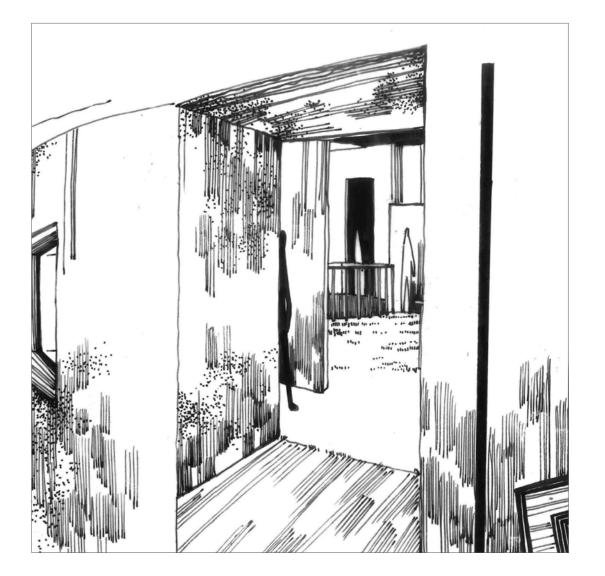


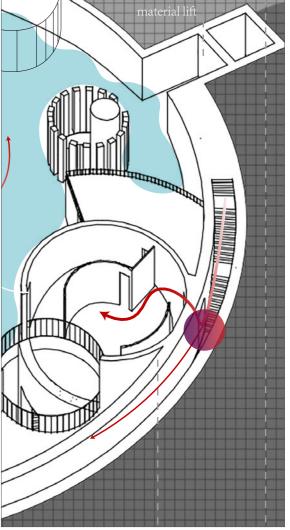
Entrance





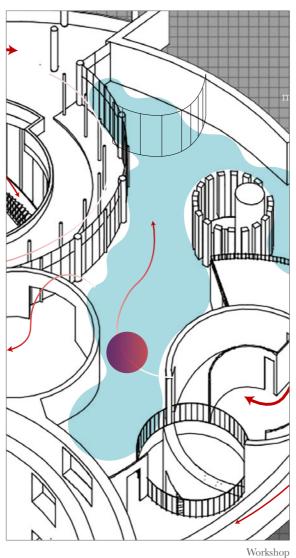
Internal stair case



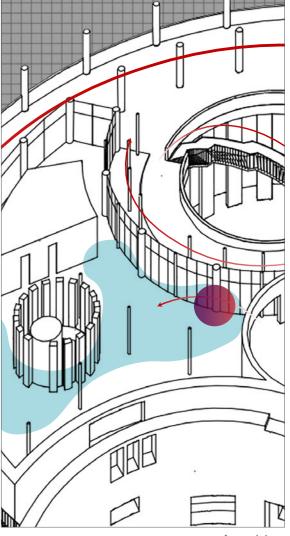


Reception

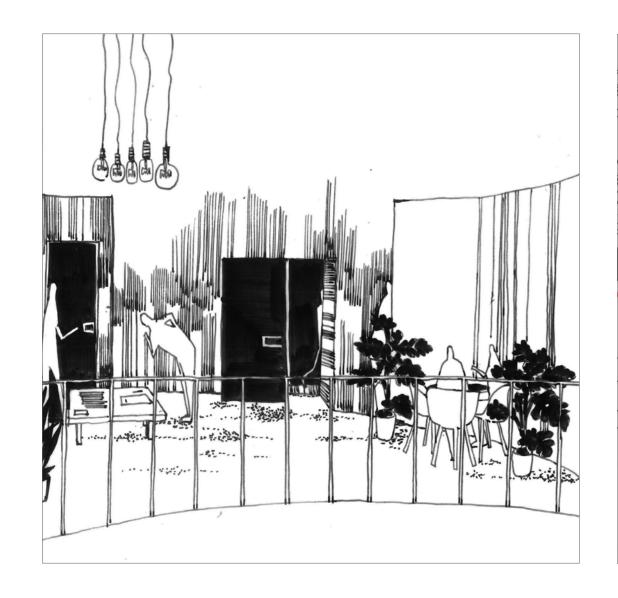


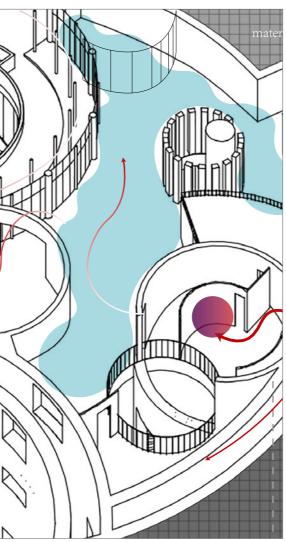






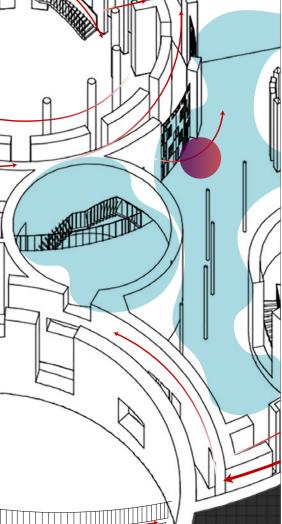
Internal shops





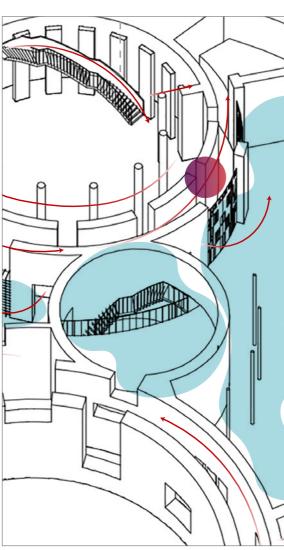
Reception view





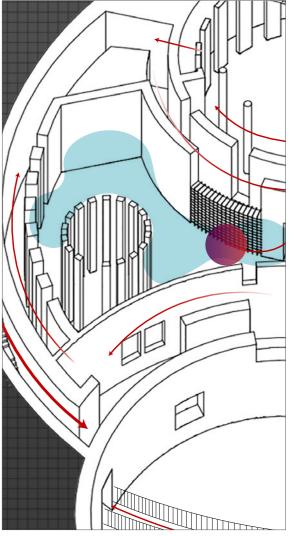
Fabric sotrage and clothes collecting





Wooden material storage and flexible walls





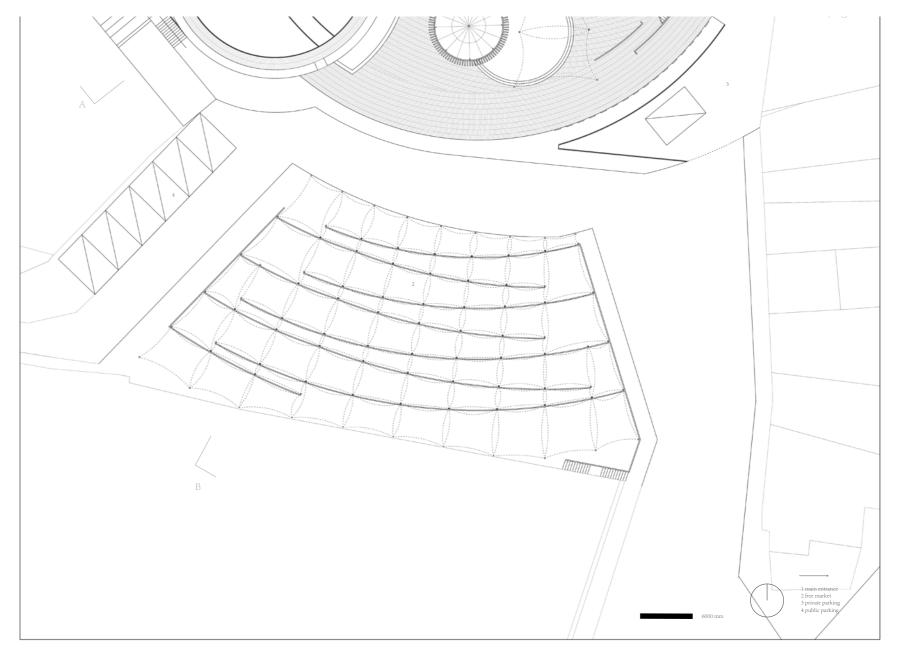
Glass bottle storage and bar

## Plans and sections

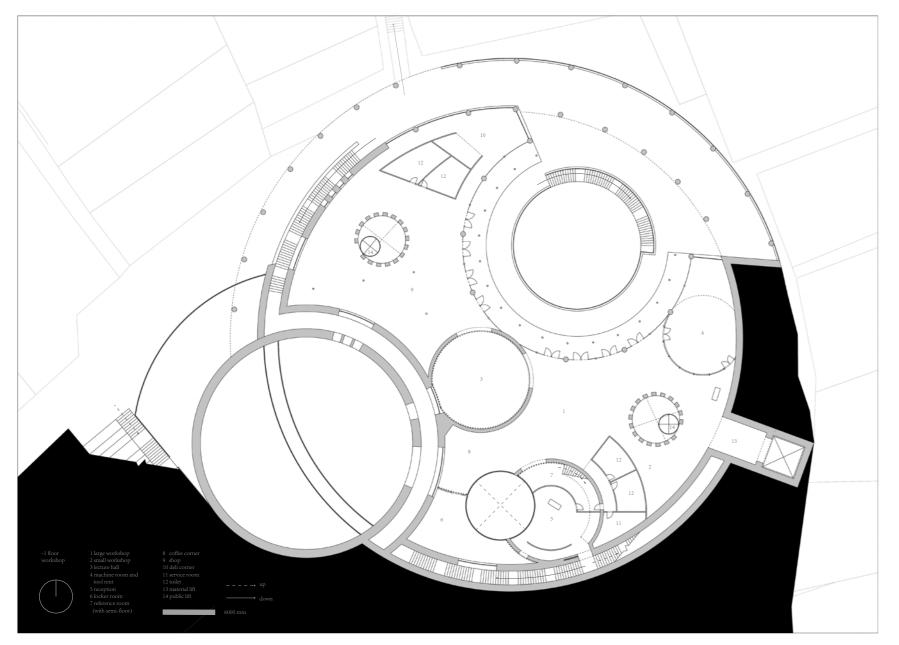
Plans follow the same geometry rules of the mass. The outside circle limits the capacity of programs.

However, before organizing programs, the grid of circles sets the logic of structure. All the load-bearing walls and columns are calculated in advance. I replace some of walls and columns by cylinder chambers in order to centralize some intimate events, which also fine the interior space. Because of the circular mass, I use only a few ways to create inner space: by setting back or forward walls and adding cylinder chambers. Due to the deep span, it is much darker on the side close to the mountain, I add three light wells for natural light.

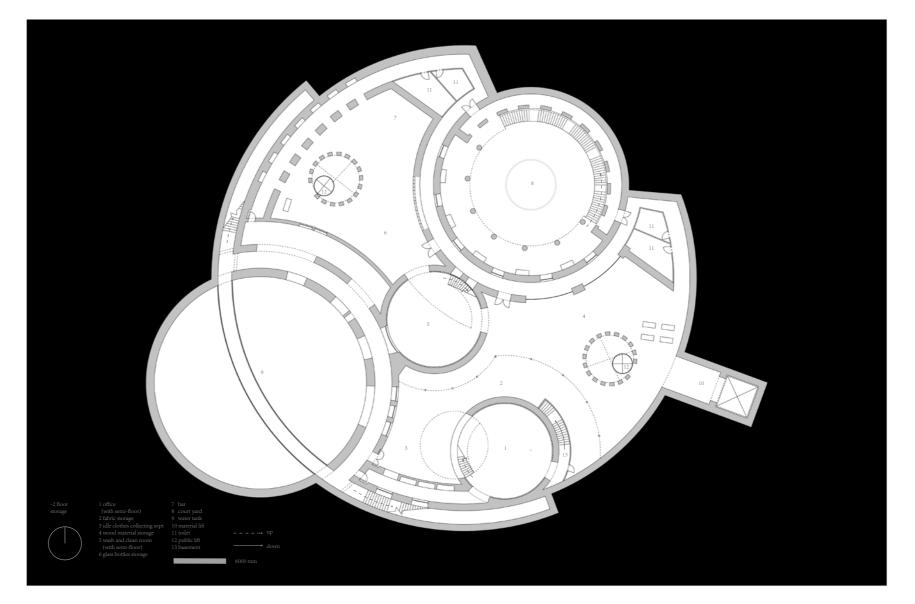
All the cylinder chambers and light wells have reflections on the market floor. Some of them are sunken space, and some are presented as cages with glazing closure surfaces.



Ground floor - the market



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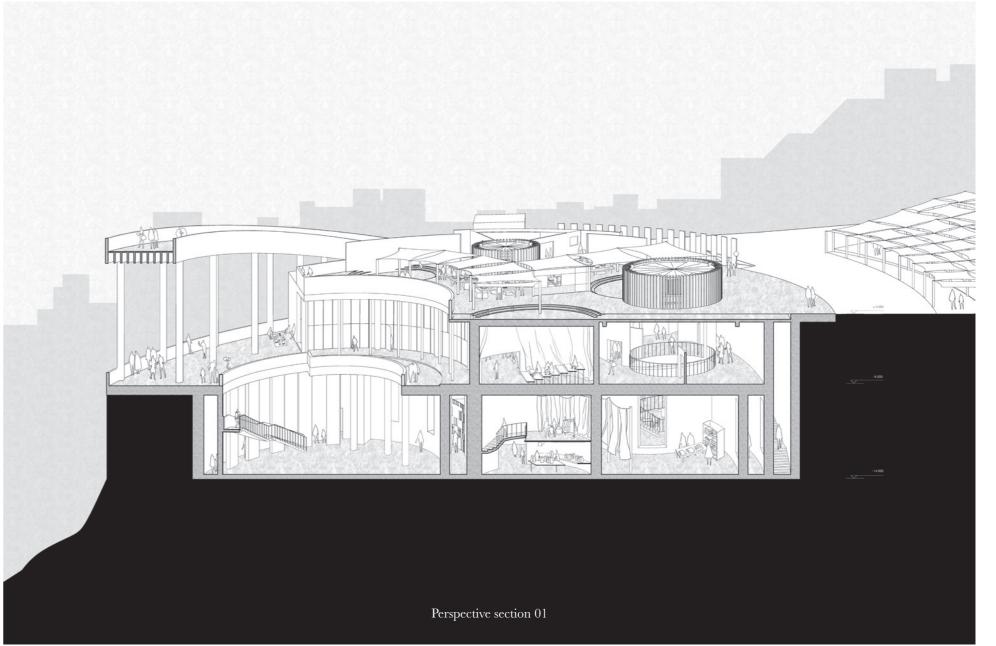


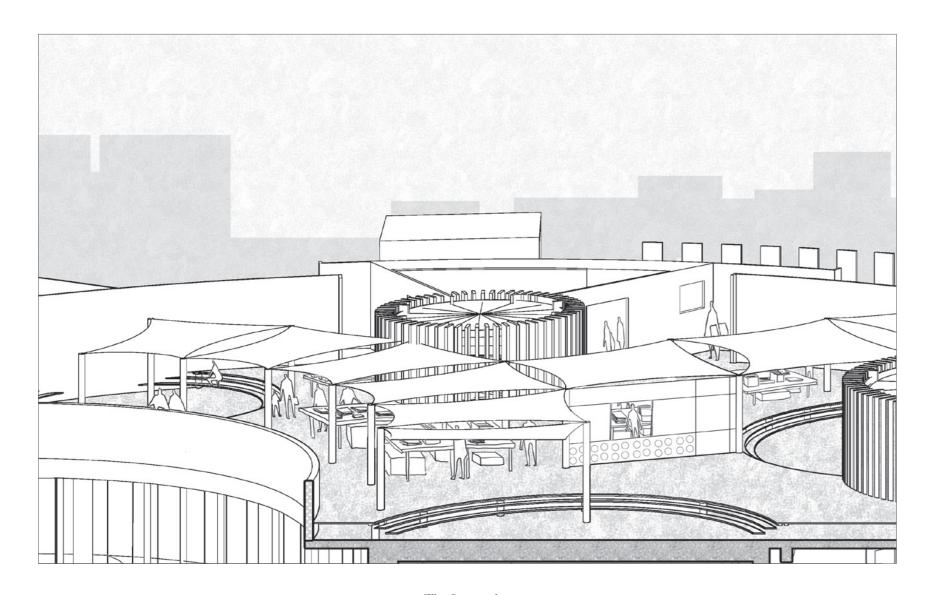
-1 floor - workshop

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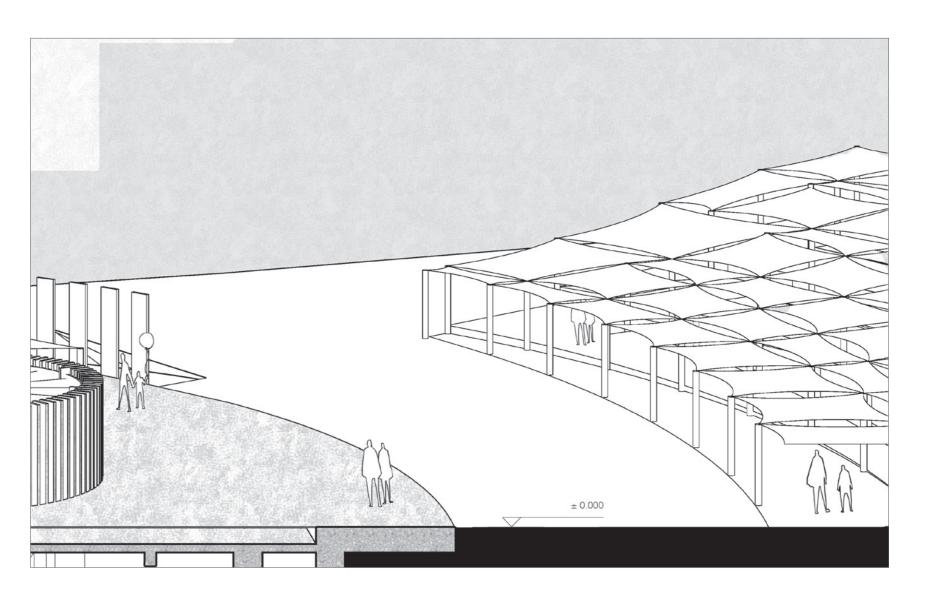
On perspective sections, it is much more clear how the building structure, spaces, and events collaborate.

The first section mainly shows the relationship among the bridge, the courtyard, the markets and inner spaces.

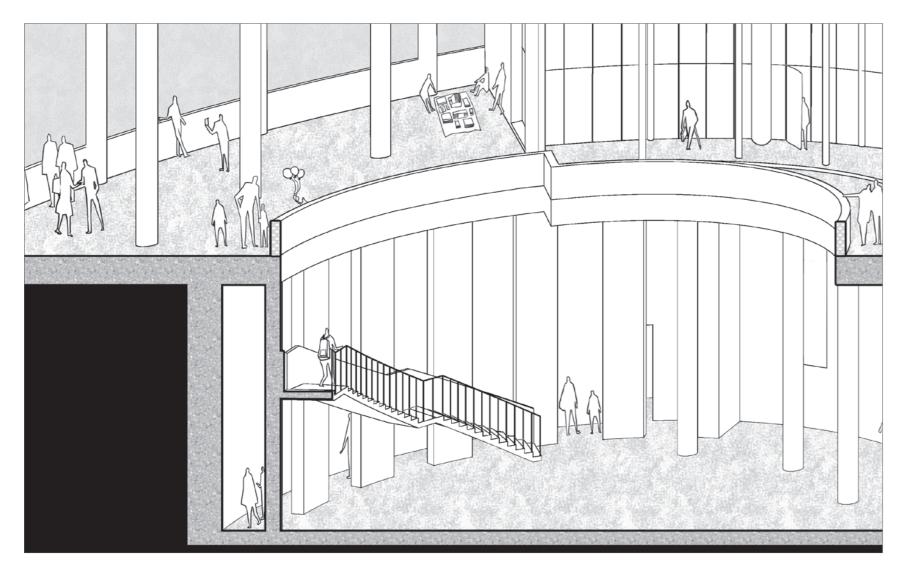




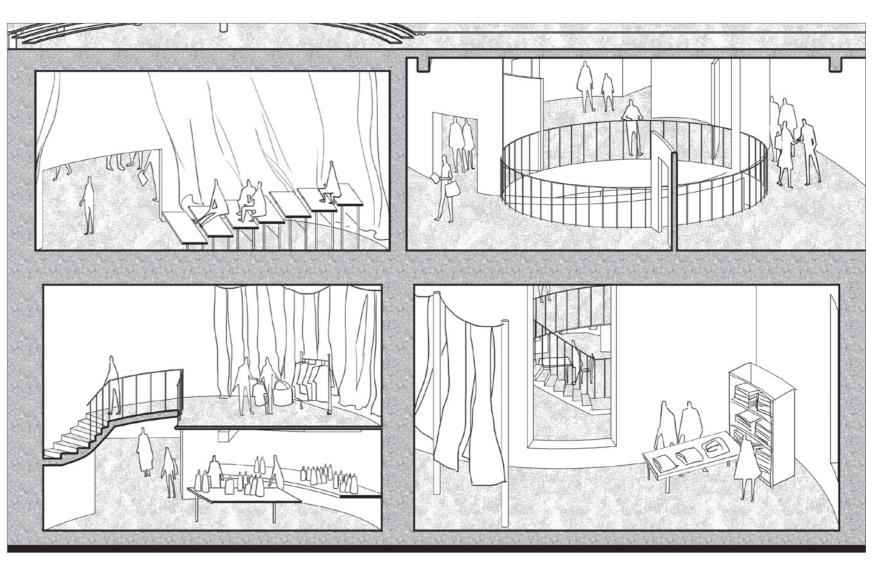
The free market



The road with market on each side



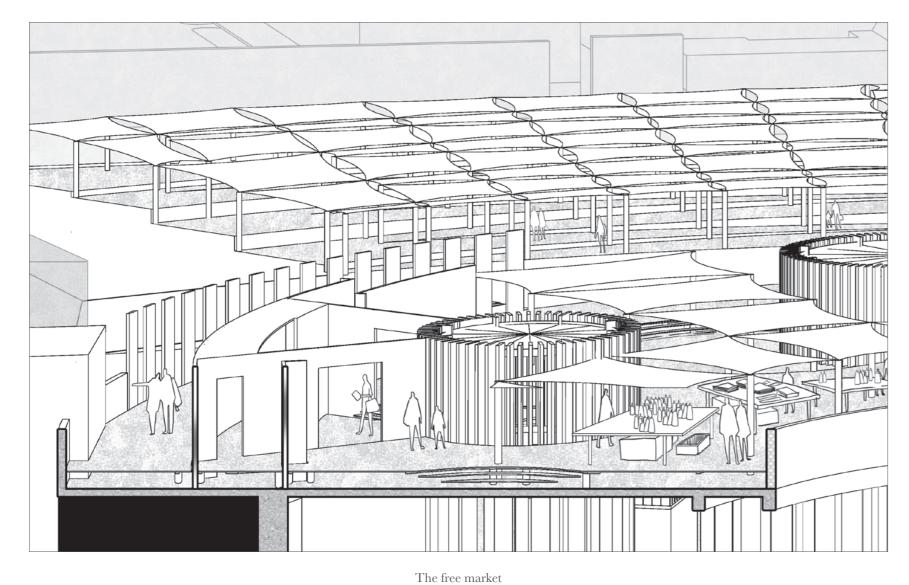
Platform and the courtyard

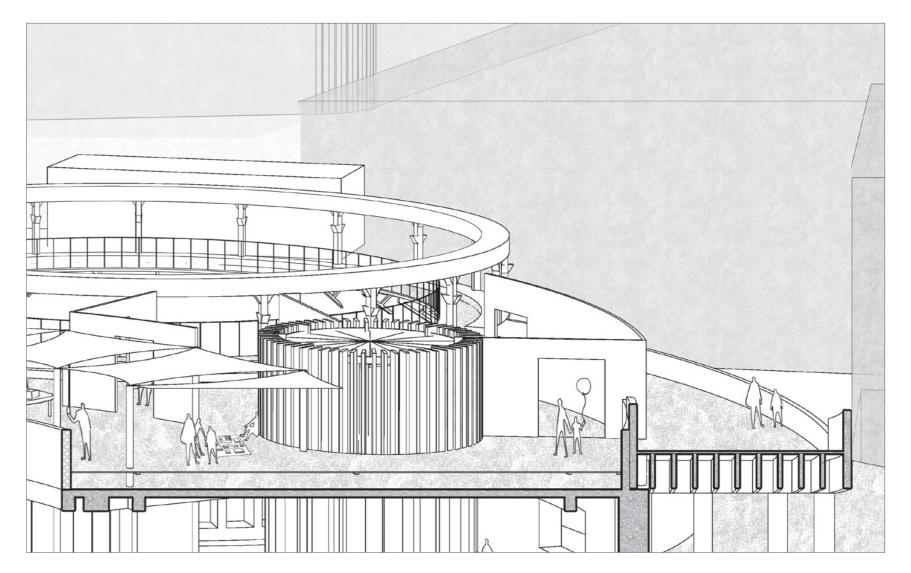


Activities in the building

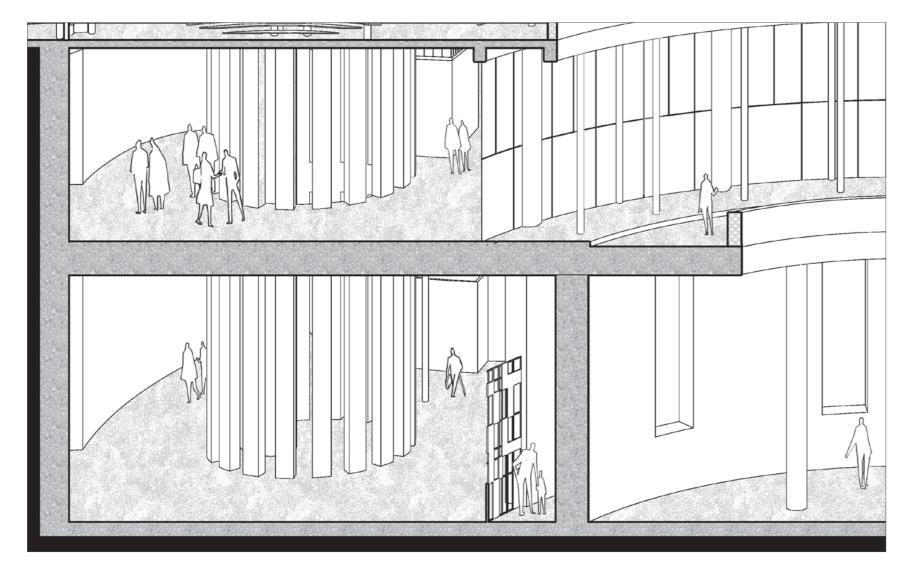
It is crucial to connect the additional building to the cultural park. In this section there is an continues relation from the market to cultural park. At the same time, dynamic layers of the courtyard increase the depth of multiple height spaces.



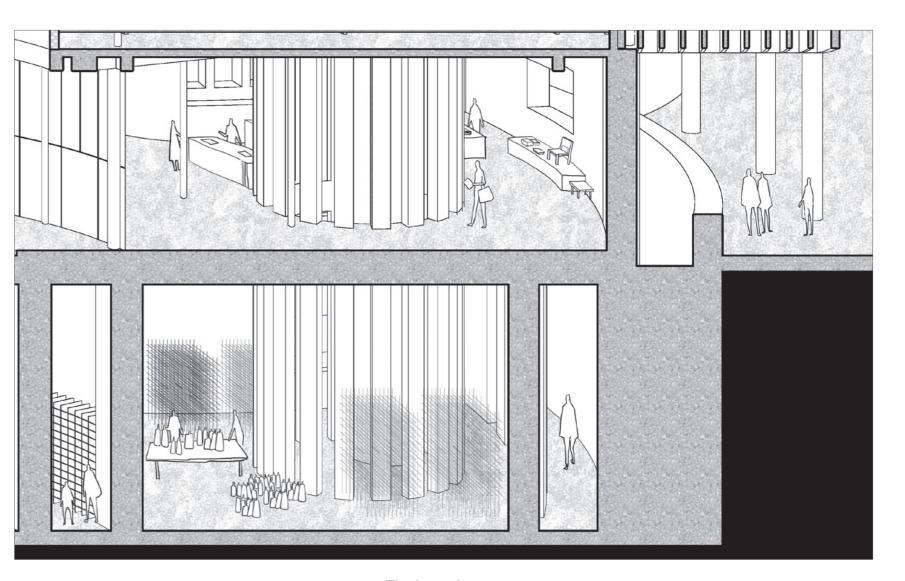




Entrance of bridge with the water tank



The light wells

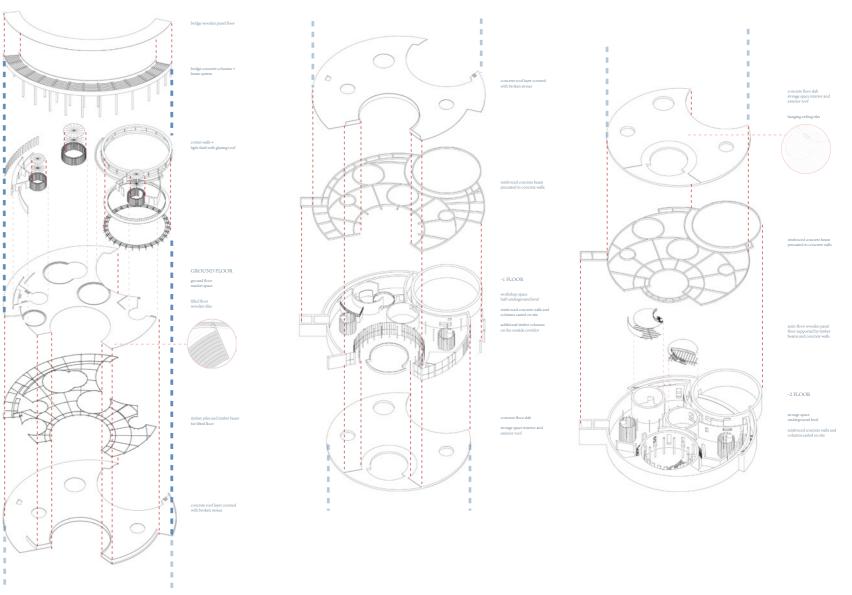


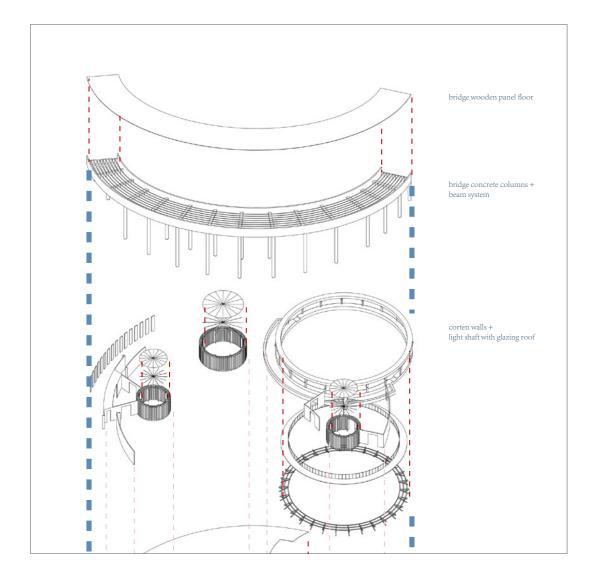
The shop and storage

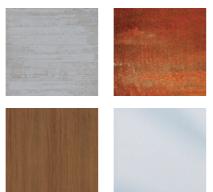
# Structure and materials

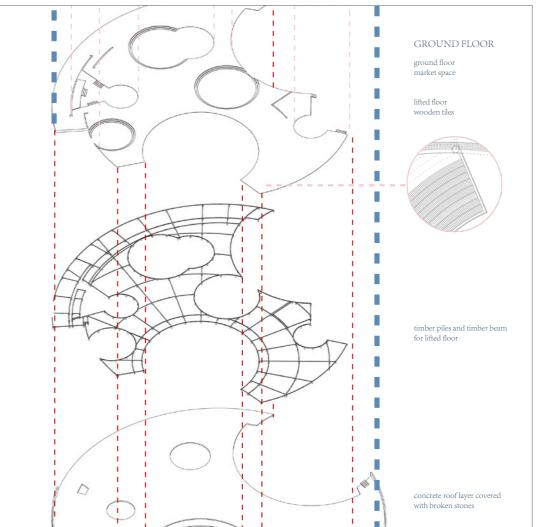
The building is mainly built by concrete cast on site. This choice has different considerations: first and the most important, the whole procedure is open to the public, people are invited to be a part of the building team and learn the procedure of construction. Second, materials would match the cultural park, they will have the same texture as they will be one educational and cultural campus as a new city center.

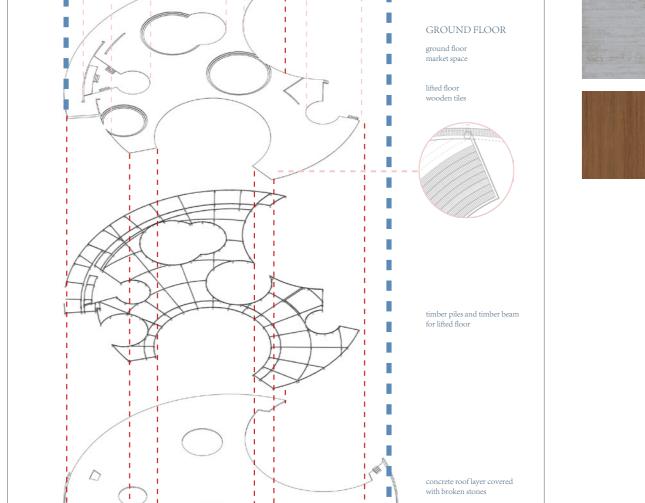
The rest of the materials are corten steel, wooden tile, wooden column and glazing surfaces. The recycled materials are glass bottles, wooden panels, fabrics and other decoration tools.

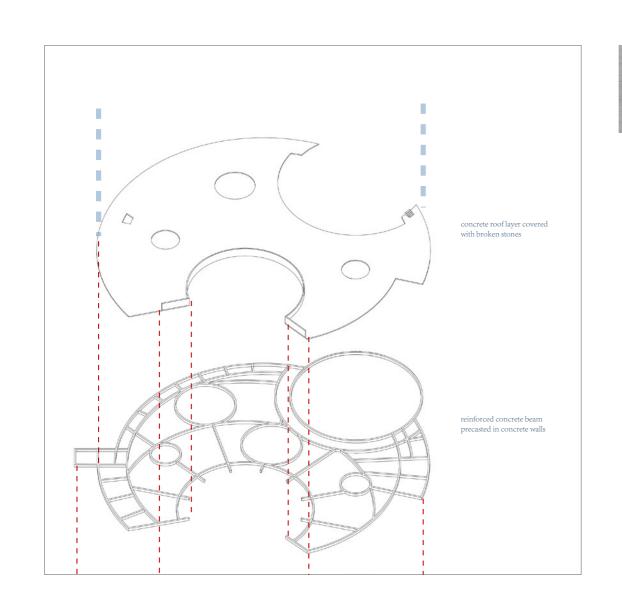


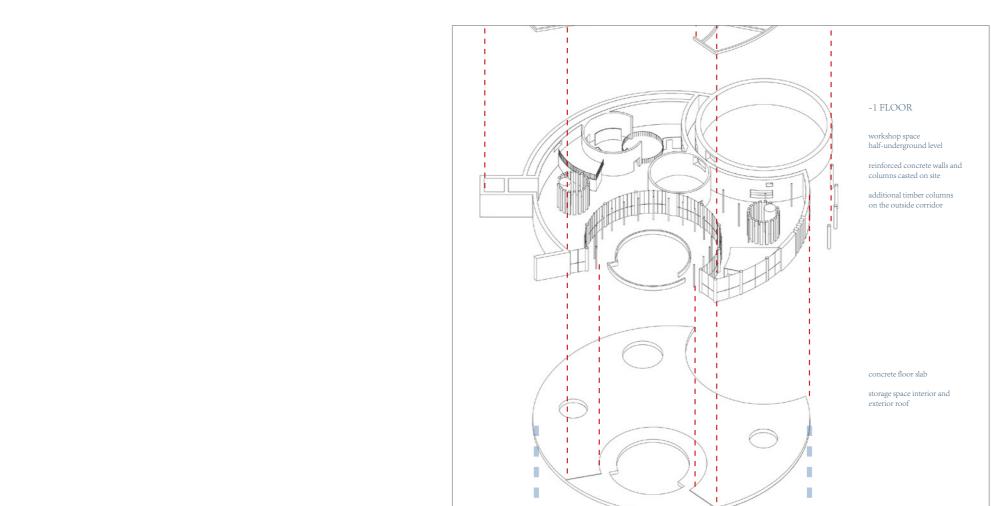


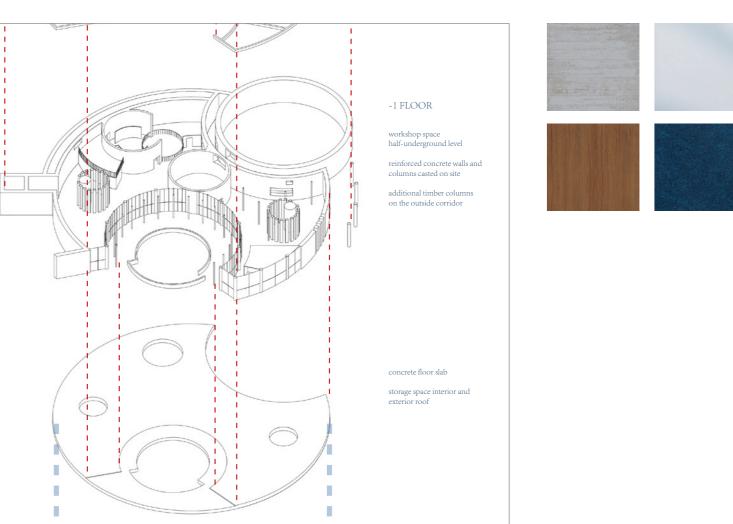




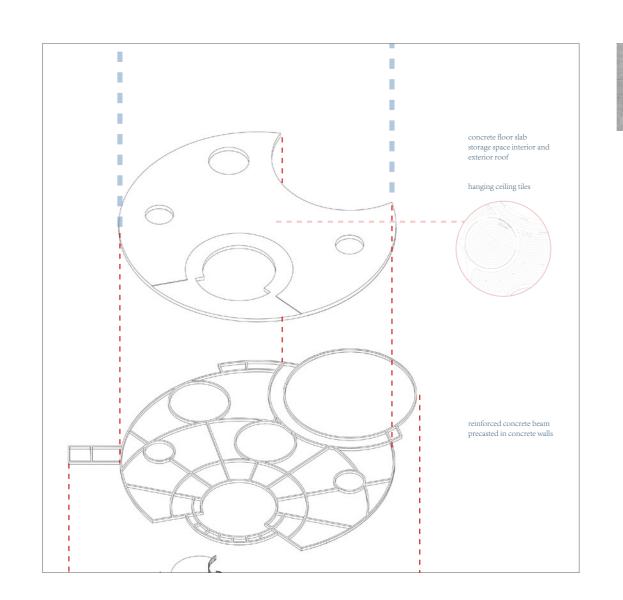


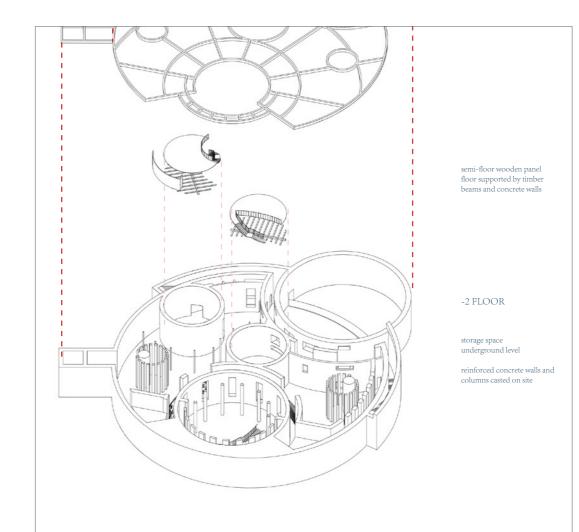






Market 120 Market 121























Concrete corrupted wood casted cast-in-place

Corten steel
doors & opening frames
& finishing

Wood columns & tiles

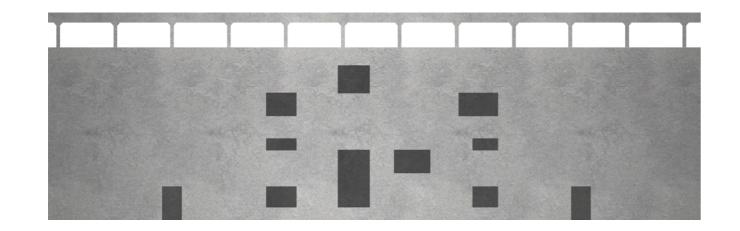
Glazing light well closure workshop curtain wall

Concrete + glass bottles flexible walls

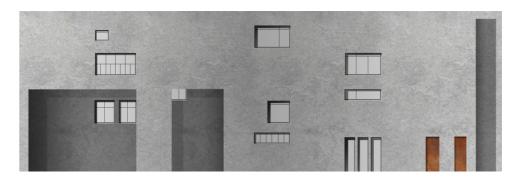
Fabric market shed

Local techniques

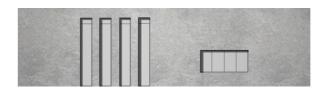
Window frames flexible walls

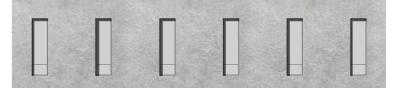


Water tank openings



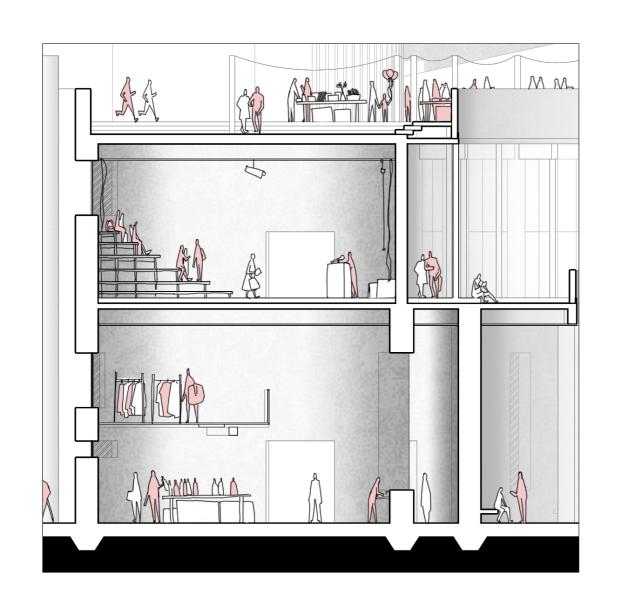
Facade between water tank

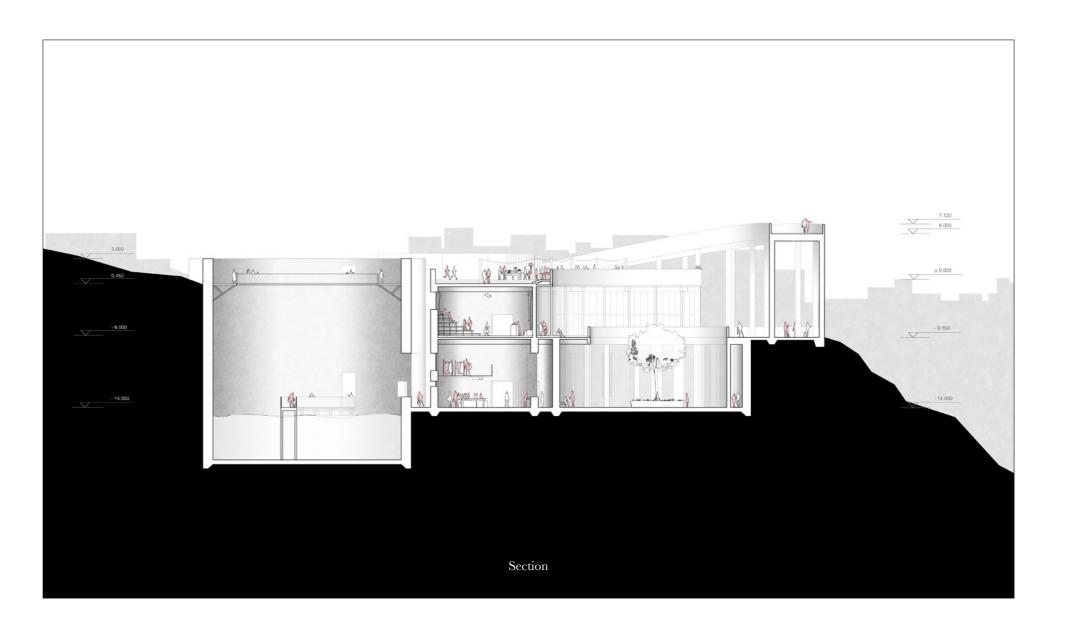


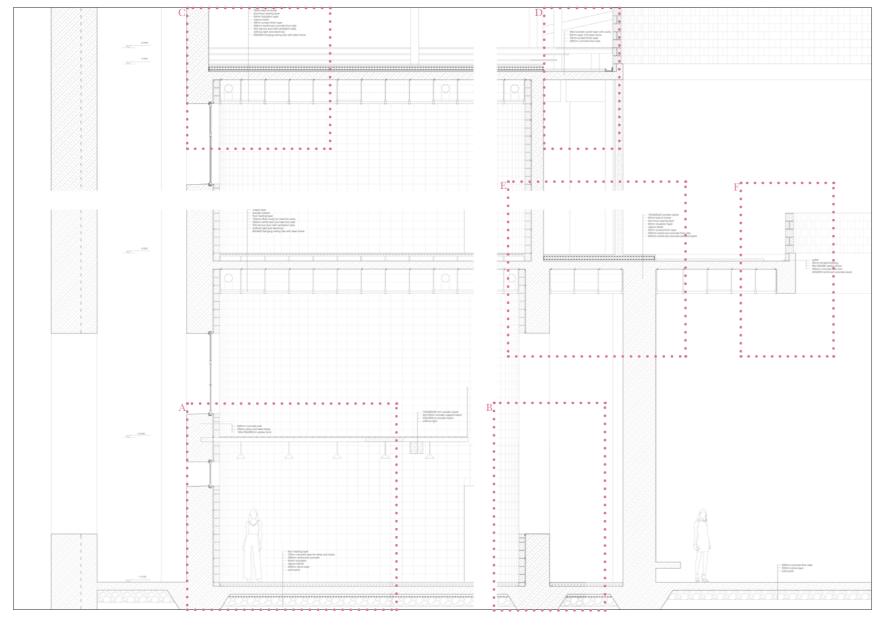


West concrete wall

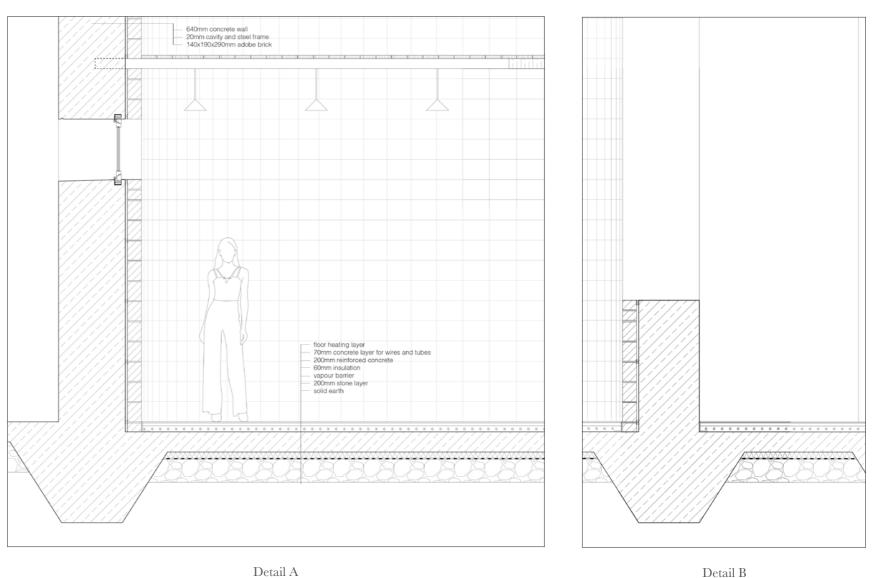
Garden building facade



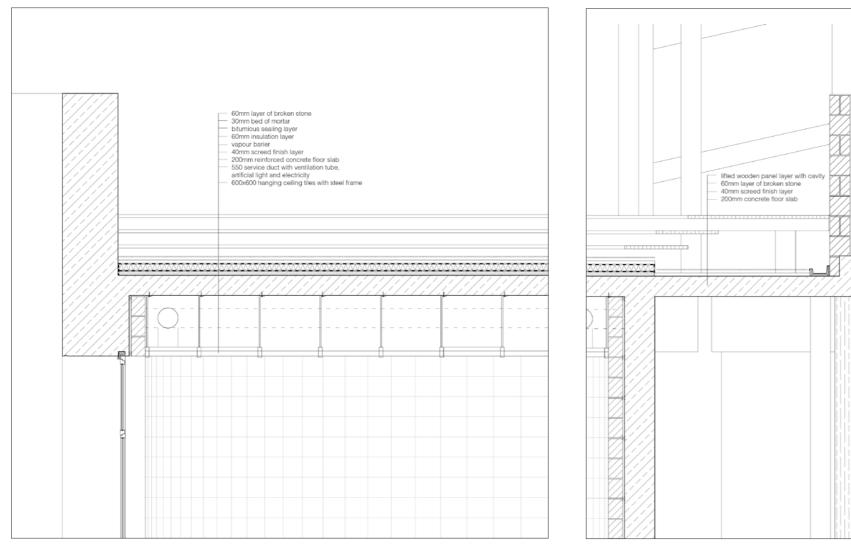


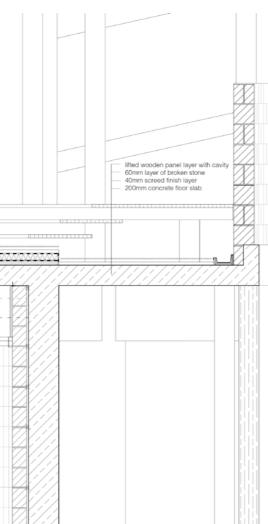


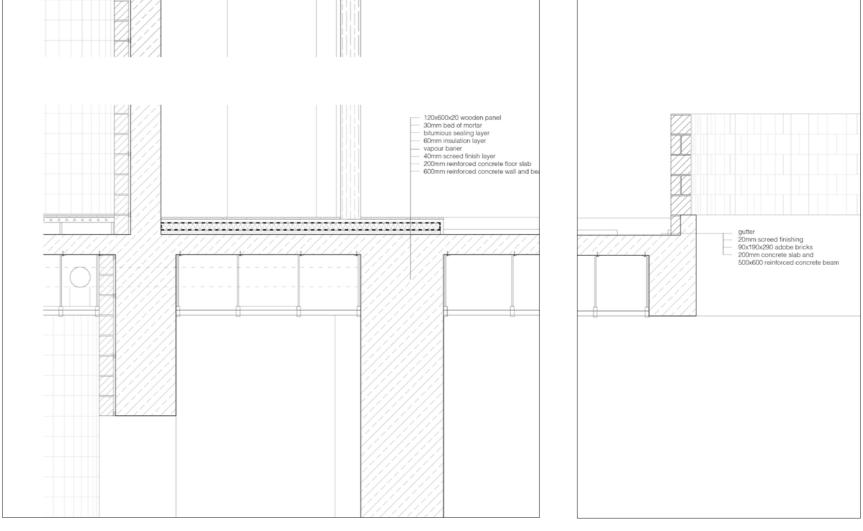




Detail A





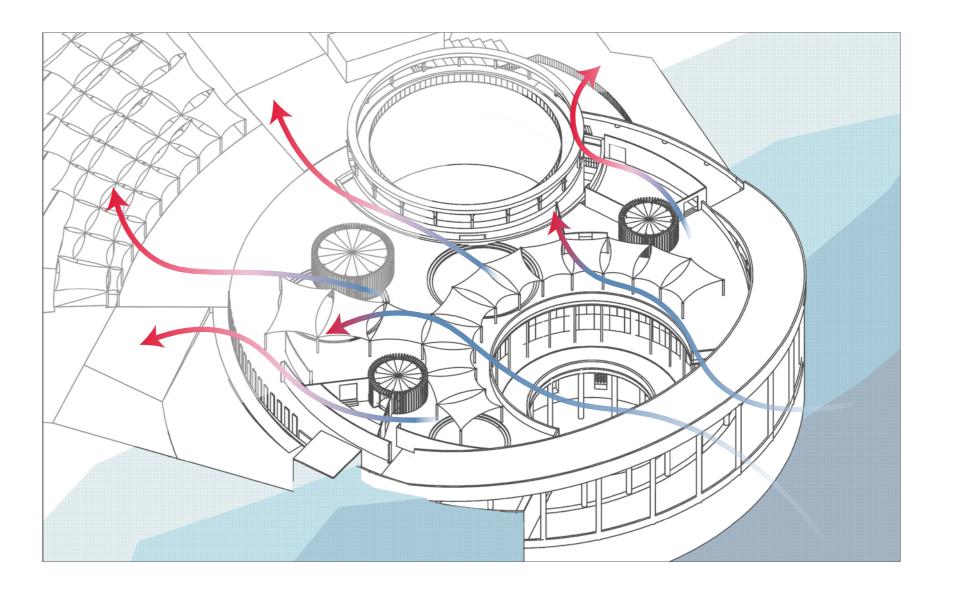


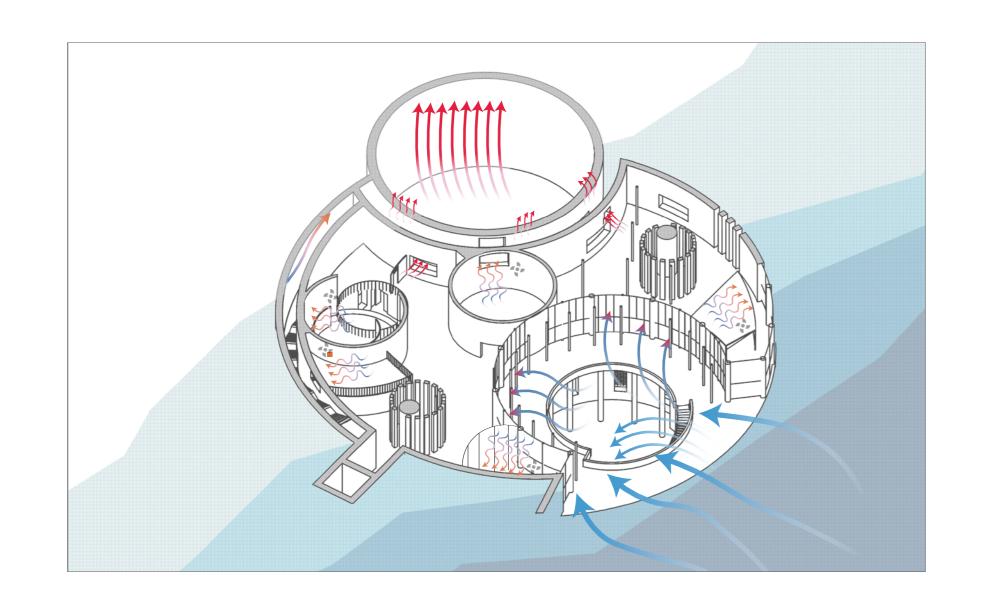
Detail C Detail D Detail E Detail F

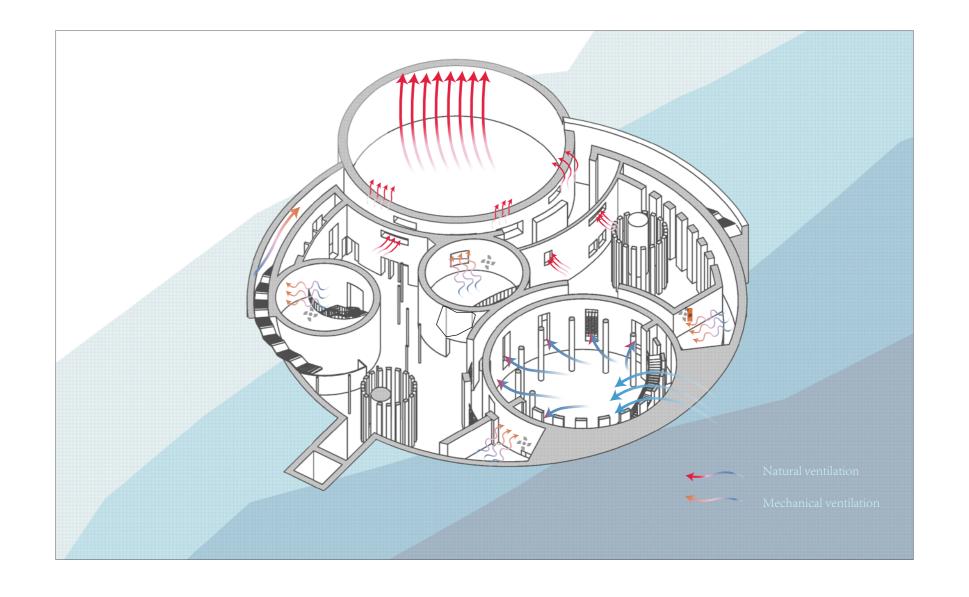
## Climate

In this section, there are climate design diagrams about ventilation system, solar analysis, solar energy collecting system, thermal energy collecting system and rainwater harvesting system.

The ventilation system is a hybrid system that contains natural ventilation and several independent mechanical ventilation. With the help of multiple openings and the water tank, open spaces are ventilated naturally. However, the machine room on workshop level and the cylinder chambers need mechanical ventilation system that could turn on individually.

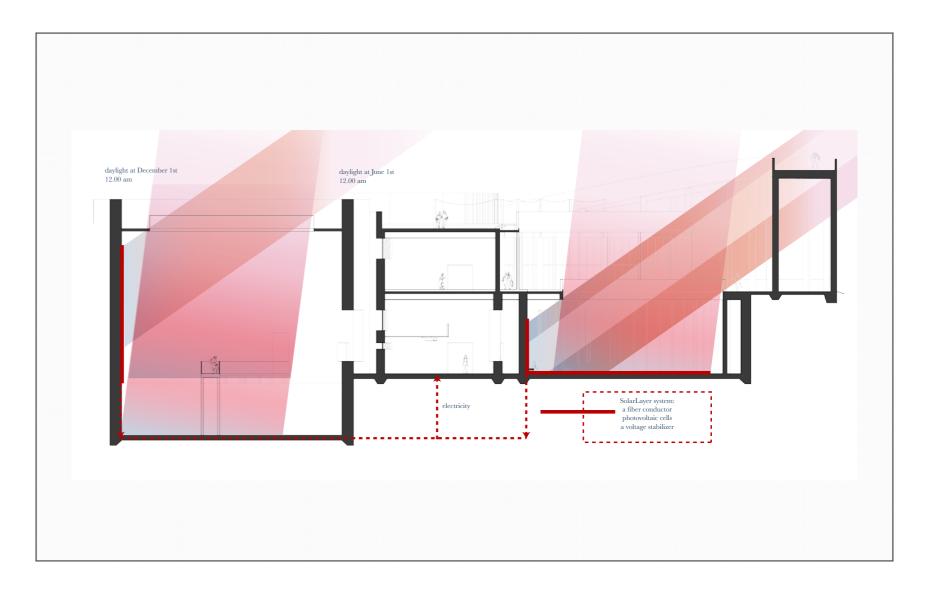




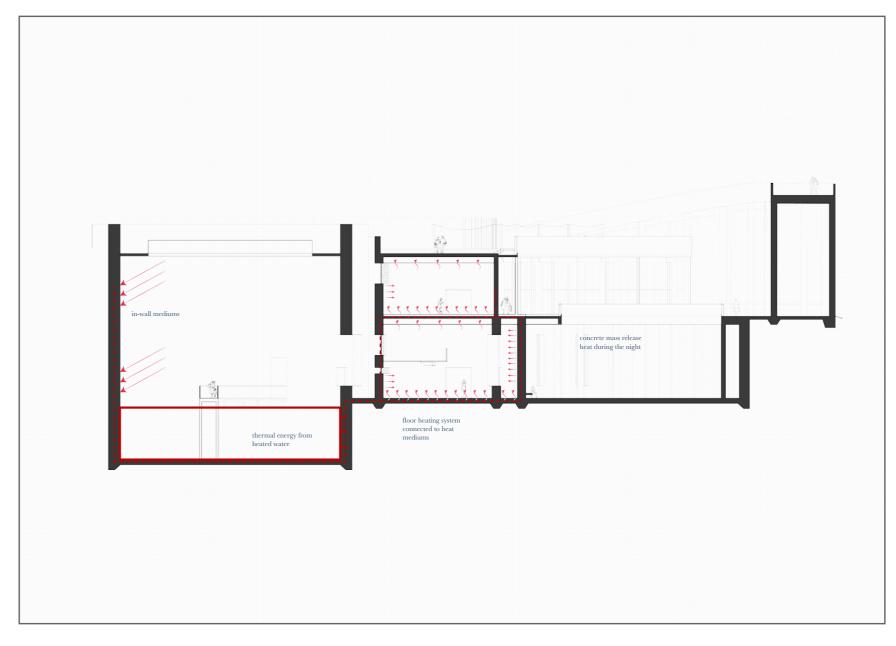


The solar altitude has a huge difference in summer an winter. Hence, the surface that could collect solar energy for electricity would be different.

The solar layer system is based on a theoretical study from many laboratories: a paint collects solar energy that could be applied to any surface. It contains a fiber conductor, photovoltaic cells, and a voltage stabilizer. In the project, the main surface that I propose is the water tank wall, courtyard walls, and the ground.

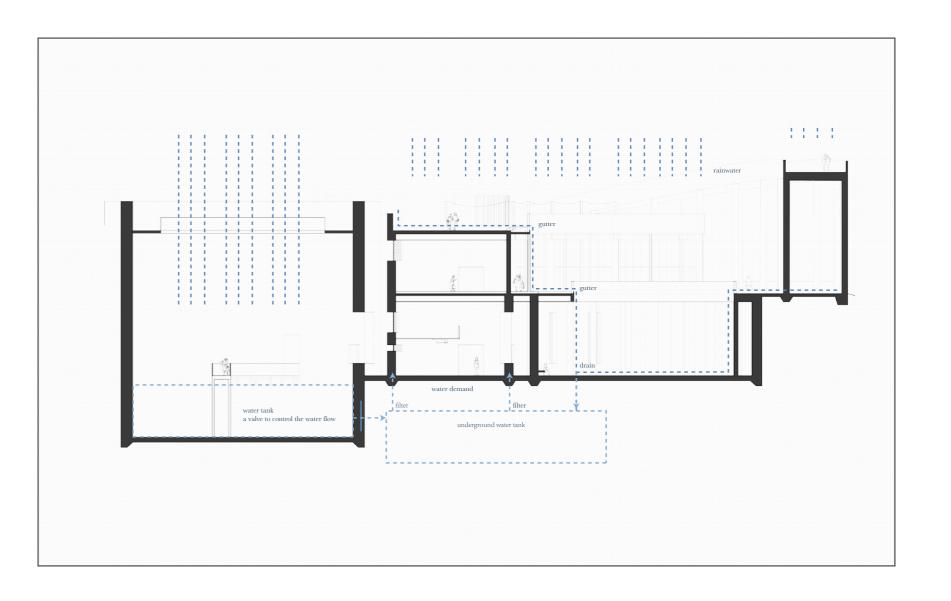


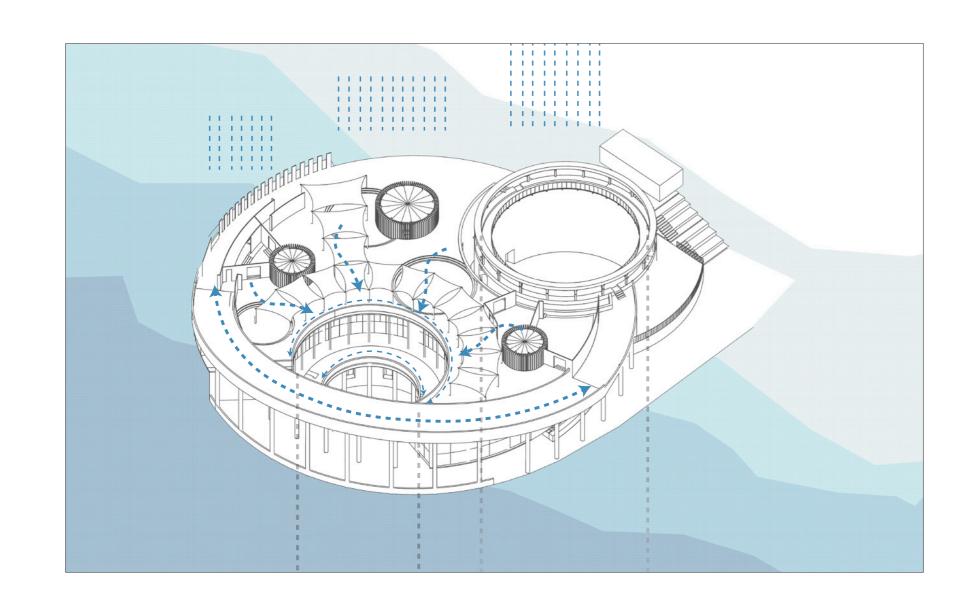
The thermal energy would be collected by the same surface of solar energy on the water tank wall. Due to the existing structure is not strong enough, a new layer would be constructed on the inner surface, where the thermal transfer medium is hidden. The thermal energy could be used as floor heat during winter, with the whole building having the capability to adjust internal temperature.

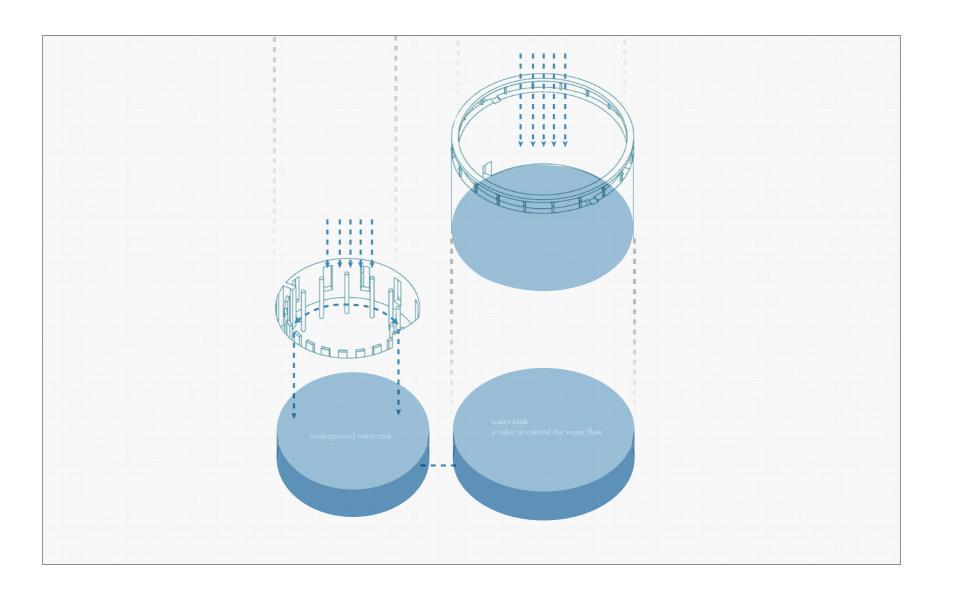


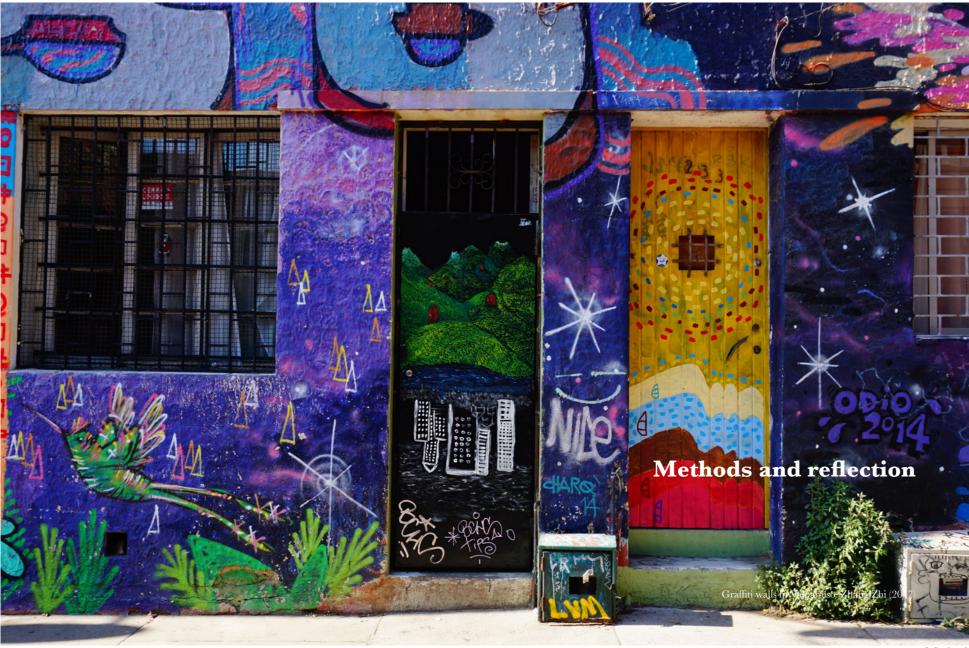
Rainwater harvesting system contains two parts: the water tank structure and an underground water tank.

The rainwater would be used as toilet water and water for cleaning materials.









# Methodology

In the research, the main tool that I use is mapping and sketches. Before site investigation, there is a need to understand public, private and the common space in the city, thus mapping the city in a way to distinguish each space is a demand. However, when I find there is no chance to specifically define the space, I change my strategy to understand the city by zooming into the plain where main public squares are. In site investigation, the way that I collected information was making sketches with additional narratives to explain the feeling when I was on site. Over 70 sketches are made in Valparaíso, trying to capture all the important urban features that trigger events and interactions. When back in the studio, these sketches are transformed into an event map that shows both locations and the

However, the map was still a base of further study. In order to relate the events and locations in a spatial and visual way, panoramas are made with activities, spaces, and locations, both in the horizontal and vertical way. Making panoramas is also me reinterpreting the urban space with my own comprehension, as I point out the

activities that happen in the place.

public features, like markets, urban settings and sidewalks, translate and connect them with each other.

When on the site, the city itself triggers my sensitive thinking when considering its segregation between the ocean, the plain and hills. To present this idea that the city is in this segregation but requiring bounds of people and the city, I write a poem and make a watercolor painting by collage style. The painting has fragments of urban spaces and it compares them with utopia cities appear in many movies. This optimistic views of Valparaíso and gloomy images of future cities with high-speed developed technologies are pointing to two different directions of cities in a global perspective. What I want to express is how can architects act to influence future city by their buildings, that is the main reason of hands keep showing in the following paintings. Fragments of urban spaces on one painting is a way to twist perspectives to show one space or one continuous routine in different orientations and scales. Although it is two-dimensional drawings, it shows threedimensional information, also could be seen as a

collage of views. The same skill is also applied to the panorama drawings.

In the design process, I continue the same tool that I use in research. Panoramas which have spaces and material proposals fit the shape of mass — a circular building. Watercolor paintings are made to abstract certain spaces in order to find new possibilities. The whole process is an experiment, by trying and creating without boundaries, both interior and exteriors, also the landscape itself is freely designed.

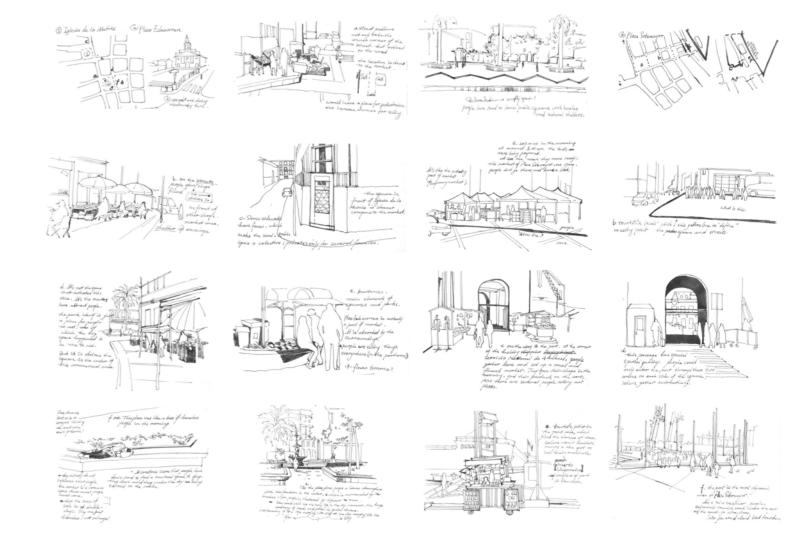
On the other hand, rational views of the structure and the real spatial qualities are built on physical models. Load bearing system is firstly tested on 1-200 cardboard working model. With a fundamental understanding of it, inner space is formed by replacing several load-bearing elements. Models also show many problems and demands during design, like where are tiles and beams on the ground floor and the problem that some market columns might not fit the structure grid.

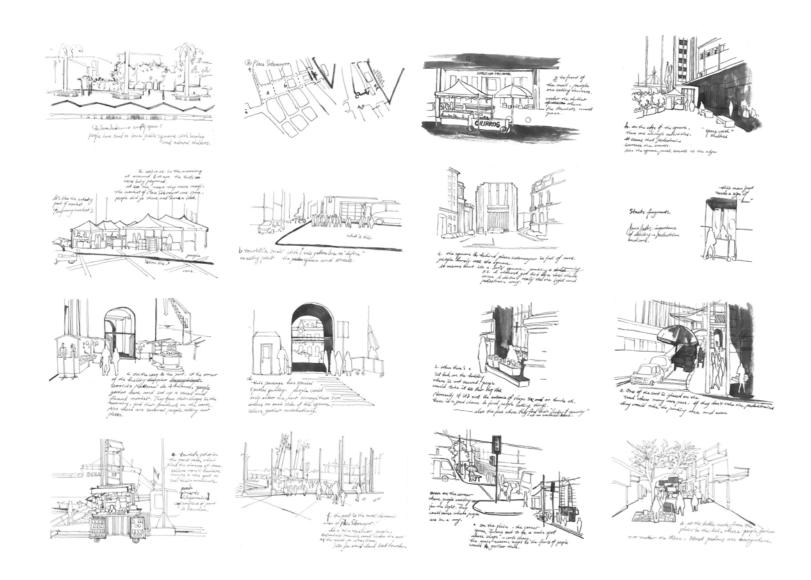
### Sketch and panoramas

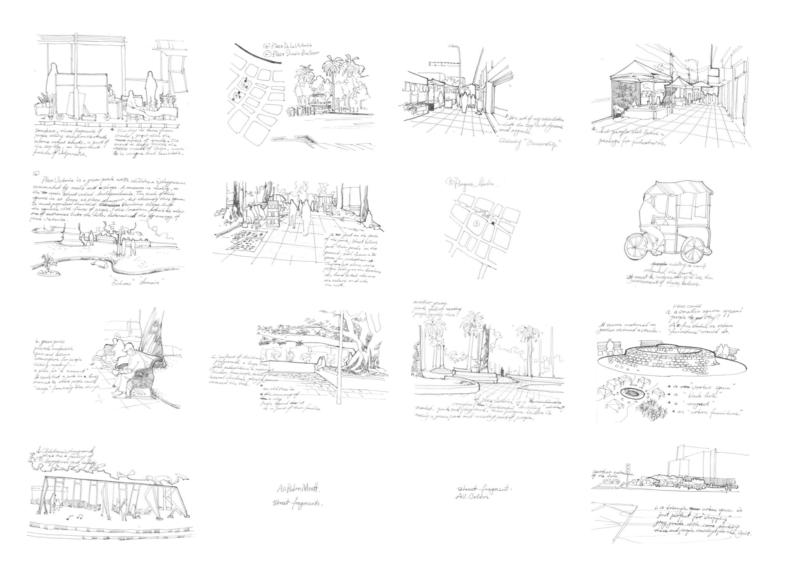
### Observation

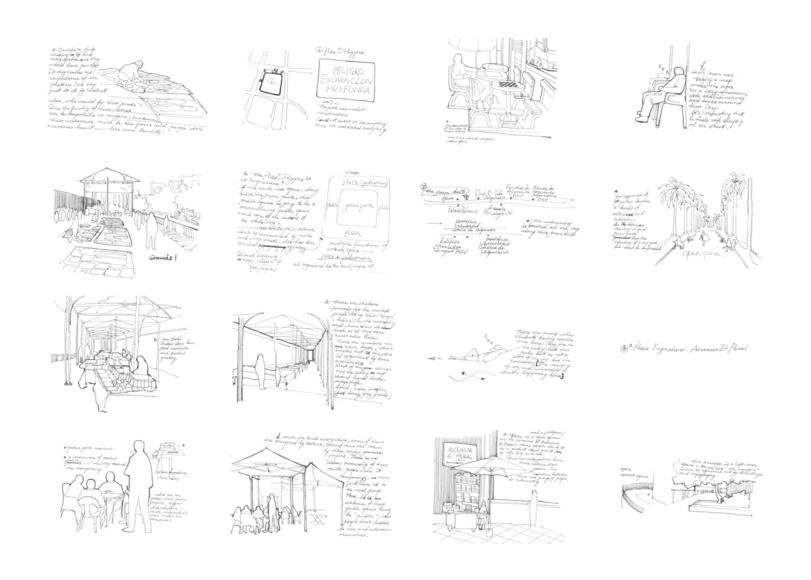
The observation sketches are taken in the fieldtrip. They contain both drawings and narratives, with initial feelings from myself.

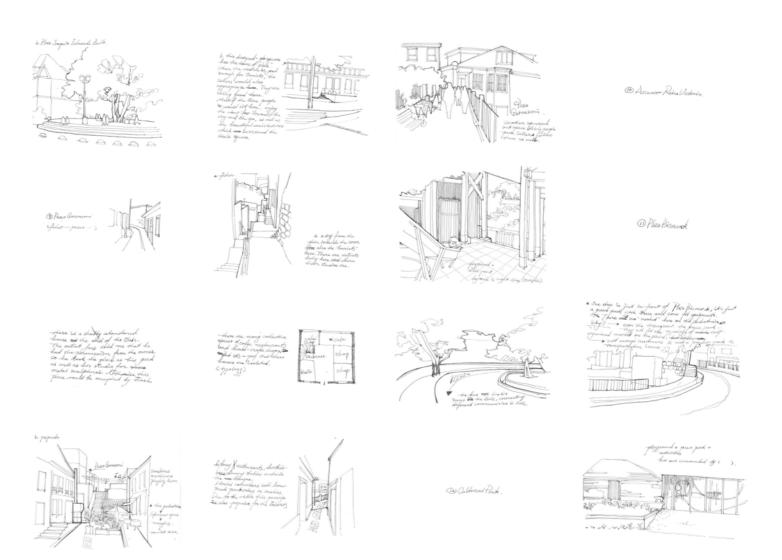
The observation starts from Iglesia de la Matriz to Plaza O'Higgins. They are the base of section panorama - events on the plain and section panorama - down to the ocean. Different from panoramas, these drawings are much more objective.







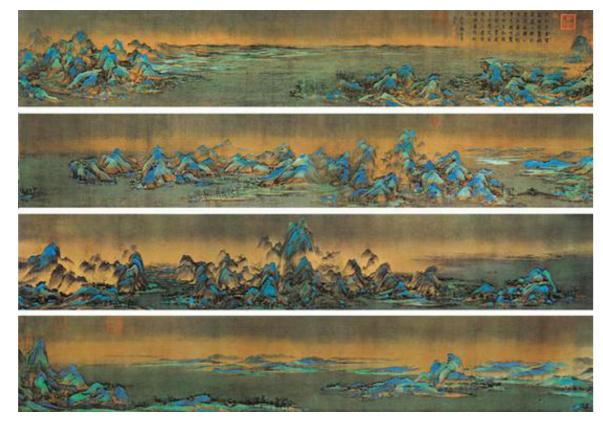




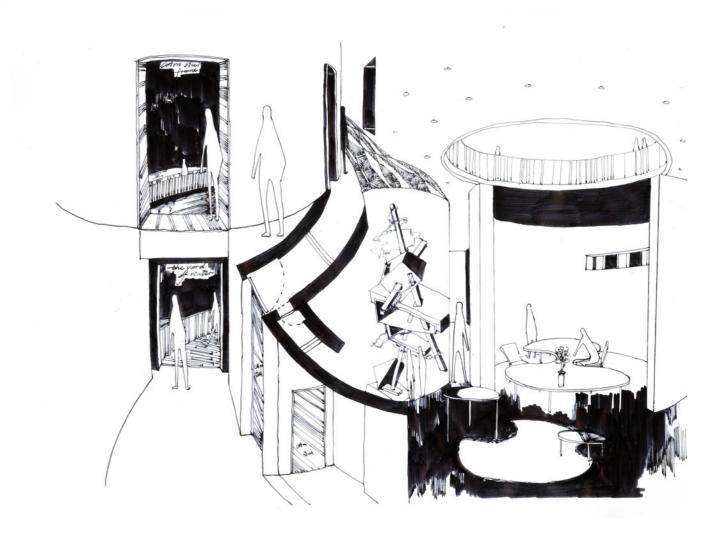
The idea of panoramas firstly come from ancient Chinese painting. There is a commonly used skill to present continues spaces or events as panorama paintings. Spaces are divided by elements as screens or mountains. In my panorama drawings, I choose to present the space by connecting sections and perspectives.



The Night Revels of Han Xizai. Gu Hongzhong (937–975) Revived from http://en.dpm.org.cn/collections/collections/2009-09-24/849.html



A Thousand Li of Rivers and Mountains. Wang Ximeng (1113) Revived from http://en.dpm.org.cn/collections/collections/2015-03-27/843.html







## Models

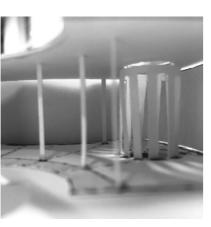
The structure of the building is firstly figured out by a 1-200 working model.

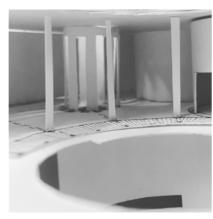
A 1-400 working model for researching the inner space which is made by thick paper is built, it also shows if the light wells work.



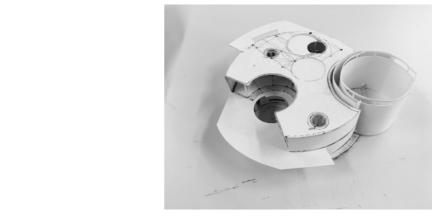


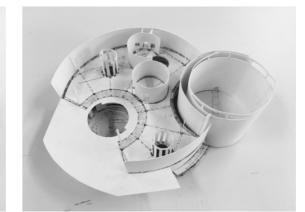














**Lightwell**double height space
with elevators

Lightwell light-cage-escape

Courtyard arcade with wooden floor and thin timber coloums

**Courtyard** open view towards the ocean



# Watercolor paintings

Water color painting is an important part of my works. All of the paintings would be in a collection.



#### Visions and questions

The main guides of my project are "visions" and "questions". I constantly shift from one to another and keep trying new tools that help to visualize my visions and answer my questions. There is no order of which comes first, but each of them represents my poetic sense and rational thinking.

What would make this building successful? What program that would fit in the space and co-work with another one well? How can I lead people to the main entrance of this underground building? How the rooftop becomes a landscape with dynamic ground space? It is a process of hesitating and wandering, seeking more possibilities by throwing many questions that I could not instantly answer, which means it has the value to be solved and it is crucial to my project. Also, sometimes with help from tutors, I find new questions that are really good but I do not have the answer, and new experiments start. Visions are common during design which represents my own aesthetic preference. Usually, visions have a part of my subconsciousness that I build during research

stage. Why I would have vertical line sequences, why I would like to use circular shape as the basic mass, these questions show when I start to draw, it always ends in my reinterpretation of the city and theoretical base.

As I have all the materials that I need to form a building, what I need to do is to visualize it in a physical model with materials and the events that I mention. However, visions would continue in the forms of drawings and paintings, what I would like to have is an album of it.

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