Rabbit Hole

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Preface

Alice was a lady who lived in Barbican Brandon Mews apartment alone. One day, she found a mysterious hole in the ceiling of the apartment. After she entered the hole, she came to the roof plantation of Brandon mews in 2030.

In 2030, city residents will be used to planting vegetables on community plantation for feeding themselves. And they will also use the community plantation as a place to relax and socialize.

The production of food has returned to the city, in the future, people will think more about community ecological agriculture, rather than reclaiming more rainforest for large-scale centralized production to feed the growing population.
Alice experience this with timetravel , and she recorded everything.

Content

"Rabbit hole" is a community greenhouse.

A more sustainable way for city residents producing oganic food by themselves.

A place for people meeting and communicat with each other

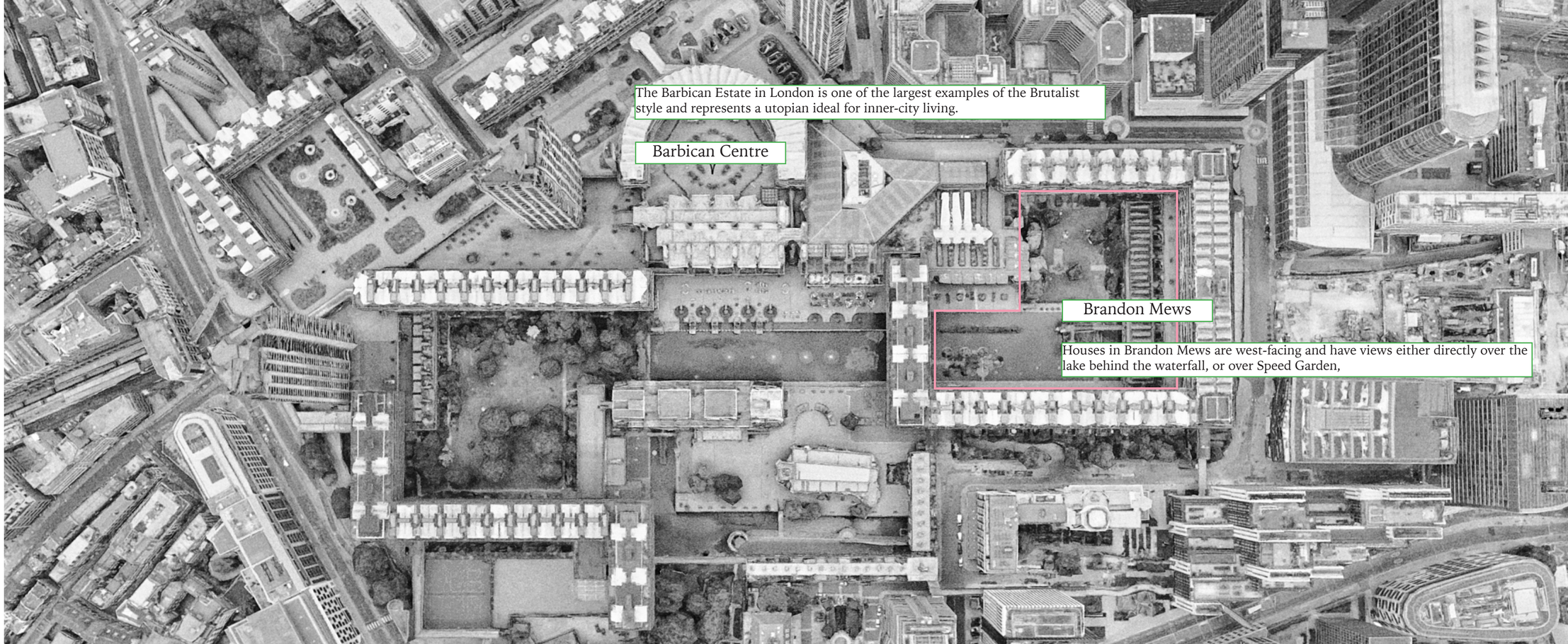
A Indoor natural environment for immersive experience

A new kind of landscape in city

A stress buffer

Alice Home

Alice was a lady who lived in barbican Brandon mews alone.

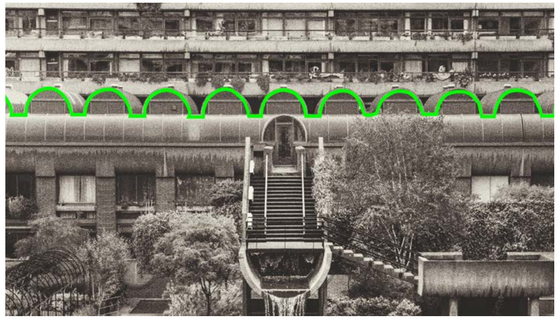


Brandon mews roof

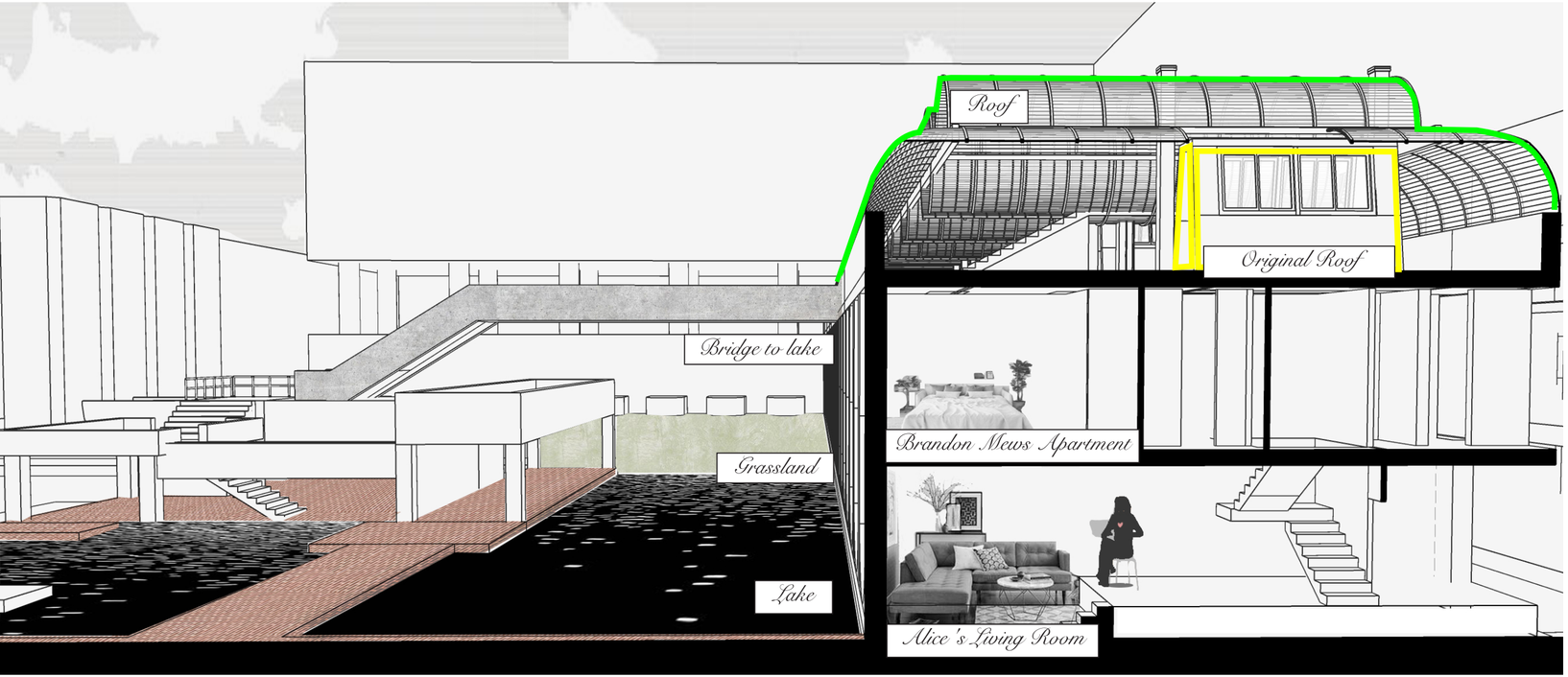
Brandon Mews is a small terrace of two-storey homes, with a brown perspex structure on top, which was apparently added in the 1980s. Close up, you can see regular pitched roofs sticking up into this rounded perspex structure. It is otherwise quite empty, which is a pity. It would make a very pleasant conservatory.

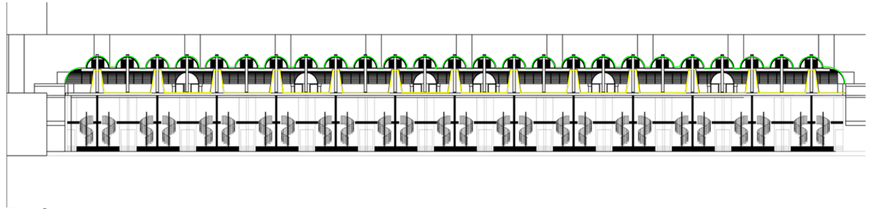
Original Roof Before 1980

Current Roof After 1980

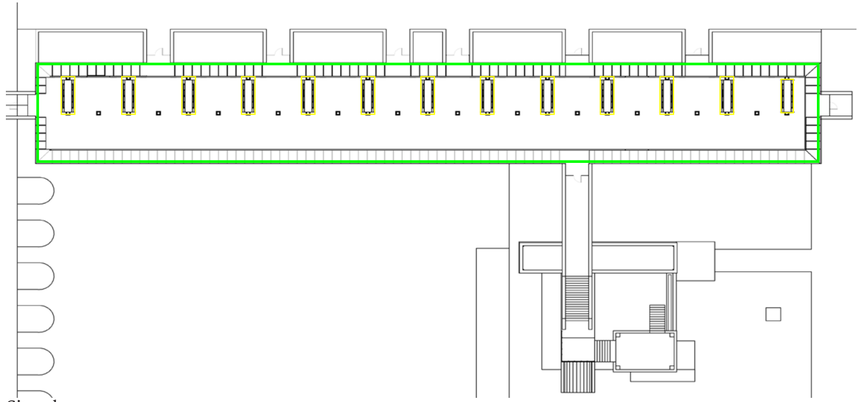


The Relationship Between Roof, Lake And Apartment.





Roof Section



Site plan

Barbican Residents Requirement


Mini farm in barbican.


Greenhouse in barbican.


The wasted space in brandon mews.

People ask for a more safe planting place.

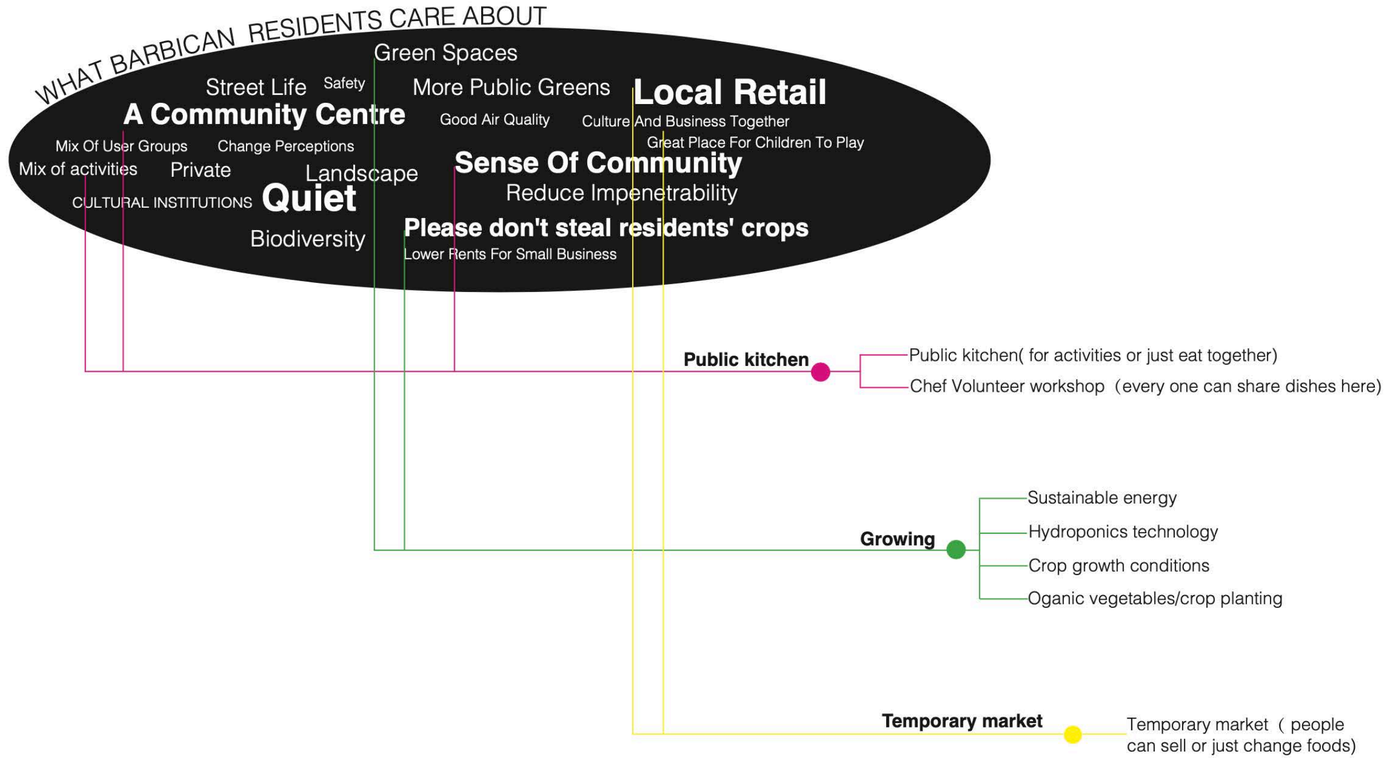
People planting here.


Drainage structure 1


Drainage structure 2


Drainage structure 3


Unreachable green island



Summarize

Real affection and support for the Barbican area as a residential environment, referred to as an ‘urban village’.
Strong sense of community from local residents and enjoyment of a secret ‘gem’ and oasis of calm in the city, which works for both residents and visitors.
Residents like the sense of privacy they enjoy and do not want it invaded by an excessive.
Green spaces and lakes much appreciated, especially residents’ gardens.

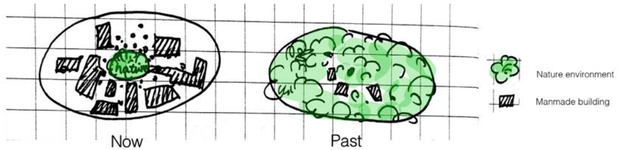
Dinner

Dinner is the steak with oganic salad.

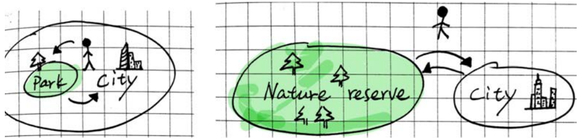
How Can I Love Both Urbanization And Nature.

Deconstruct the natural phenomenon at the sensory level, and then restructure it into a space with actual urban living functions. The healing effect is achieved by creating a sensory immersive experience of nature.

When metropolises began to appear in human society. Especially after the Industrial Revolution, the relationship between human society and nature began to change dramatically.



It looks like we are jumping in two spaces, switching our mentality. The boundary between city life and nature is too clear now.



Our connection to nature is right there in our DNA: that is the essence of the biophilia hypothesis.

Nature uniquely influenced the human mind, having the potential to influenced the human mind, having the potential to influence the matters that mental-health-care providers concern themselves with: cognitions and behavious.

Worldwide, before modern medical technology matures and prevails, nature is seen as one of the healing ways cure patient.


Paimio Sanatorium outside view

There have been many medical institutions in Switzerland because health experts believe that clean, cold mountain air is the best way to treat lung diseases.The most famous was the Paimio Sanatorium, completed in 1933, designed by world-renowned architect Alvar Aalto. It had both sun-balconies and a rooftop terrace where the patients would lie all day.

Experiment on the Impact of Natural Landscape on Patient Recovery


Outdoors Ward.

There was an interesting experiment about "different patients"between the patients who have the nature view and another group of patients who only have vista in the form of bricks. The results showed that those who had an outdoor view to trees had significantly shorter hospital stays and fewer postsurgical complaints. They also used less-potent analgesic medications.

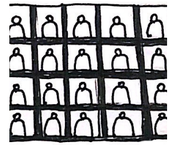
Now

Residents living in the city, their senses have been separated from the natural environment gradually. Urbanisation has brought convenient life and higher production efficiency, but also brought more serious psychological problems. Anxiety, Depression,Loneliness.


Our vision is blocked by the buildings.


Our hearing is surrounded by the sound of the city.Many people start to be sensitive to noise and even affect health.

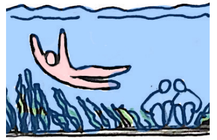
We've almost forgotten how food grows from the ground.


The Population is increased, but life becomes more isolated.

Future

My thinking on all of this is how to re-establish the connection between human and nature on a perceptual level in urban life.


Use the roof or wasted spaces of building for planting. make city turn to green.

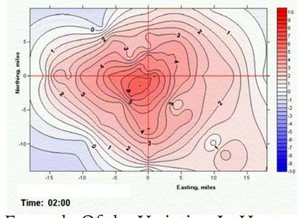

How about lie down under the water and take a break?


You can listen to the plants. plants will tell you how to take care of them.


Go to the roof, have a drink, and do some chat.

City Sustainable

- Why
  - Sustainable development is a topic that all human beings are paying attention to, and an inevitable trend in the future.
- How
  - Bio-design
    - Biomaterials and processes.
  - Hydroponics
  - Sewage circulation system
  - FIltering system
  - Solar energy generation
  - Disinfection system

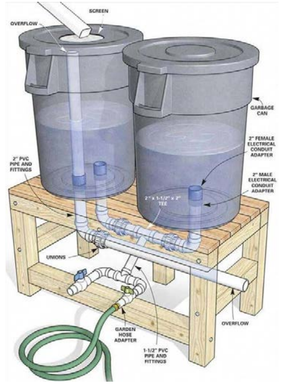


Example Of the Variation In Heat Island Intensity Across London.

Buildings' energy use trends
Building will be air conditioned in the future because of higher temperatures and even higher in the city
Estimations indicate a five-fold increase in carbon emissions by city buildings in 2050.

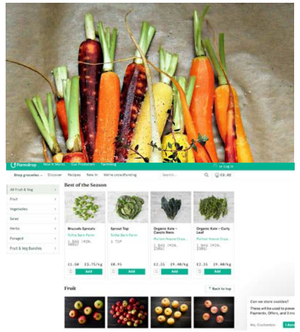
Hydroponics

Rain collection system



Organic Food

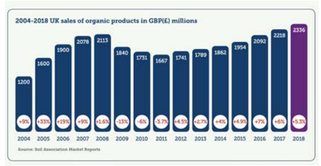
- Why
  - Increased demand for organic food by urban residents.A healthier life and food safety are common topics which talked by citizens.
    - Organic farms give urban residents the opportunity to grow organic crops on their own.
    - Harvesting crops can bring a sense of accomplishment.
    - Citizens, especially some children, lack crop or agricultural knowledge.
    - Organic farms in residential areas can effectively reduce the transportation cost and energy consumption.
    - If urban organic farms become common in the future, it will become a new urban green lung, alleviating many environmental problems
- How
  - Reusing waste space on the roof of residential buildings to build rooftop organic farms.
  - Residents share this organic farm publicly.

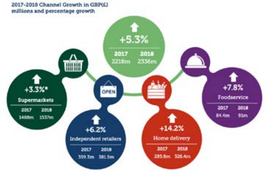


'Food miles' between organic and conventionally grown produce

"If you're buying 'green', you should consider the distance the food travels. If it's travelling further, then some of the benefits of organic crops are cancelled out by extra environmental costs," said researcher Vicki Burtt.

Compared with 2017, the GBP of organic food in London increased by 5.3% in 2018, and the proportion of home delivery increased by 14.2%.





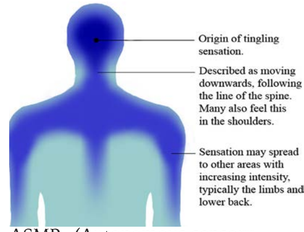
Neighbour Relationship

- Why
  - Britain's sense of community spirit is in decline
    - More than half of Britons describe their neighbours as "strangers"
    - 73% of britons don't know their neighbour's name
    - more than half of respondents barely said a word to their neighbours
    - Half people said they did not feel part of a "good neighbourly community"
    - nine in 10 admitted they never volunteer to help out with local charities and groups
    - Only one in 10 said they would assist with a local tidy up, 12 per cent would help with a charity event and a four per cent would organise a fundraiser or attend a fun run
    - Four in 10 said they felt no sense of pride about where they live and 84 per cent fail to participate in any local events.
- How
- How
  - Farming together
    - Public farming area
    - Botany information
      reading, Sharing, exchanging and botanical art
  - Cooking
    - Simple shared kitchen

Expanding Human Sense

- Why
  - Studies show that more connections with nature can heal people.
- How
  - Immersive experience about nature. Using design methods to establish the connection between the five senses and nature.
    - Five senses
      - Smell
      - Healing
      - Vision
      - Taste
      - Tactile
  - Don't create a landscape but Use some existing natural elements to design the scene.
    - Light
      - Time
    - Shadow
    - Wind
    - Sky
    - Whether
      - Rains
      - Snowing
      - Fog

Sometimes, the sound of rain makes it easier for us to go to sleep. Some people are obsessed with soft whispers. Our feeling of light is actually our feeling of touching the material. Why does the abstract sense of smell trigger our childhood memories?



ASMR, (Autonomous sensory meridian response)

Being pleasant through hearing.

You Are Saving The World While Growing Vegetables In The Community

Image 1 Current
Current

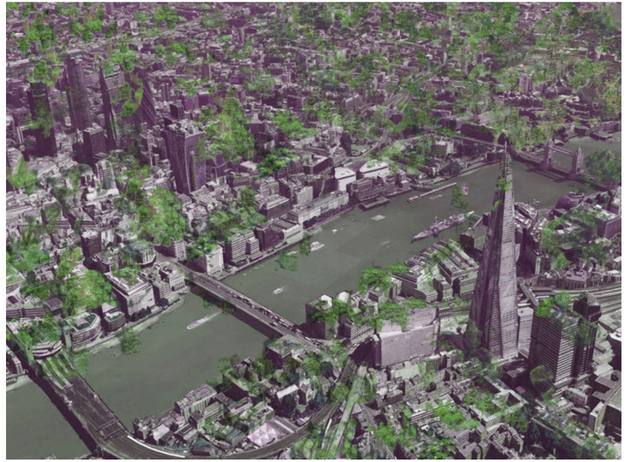


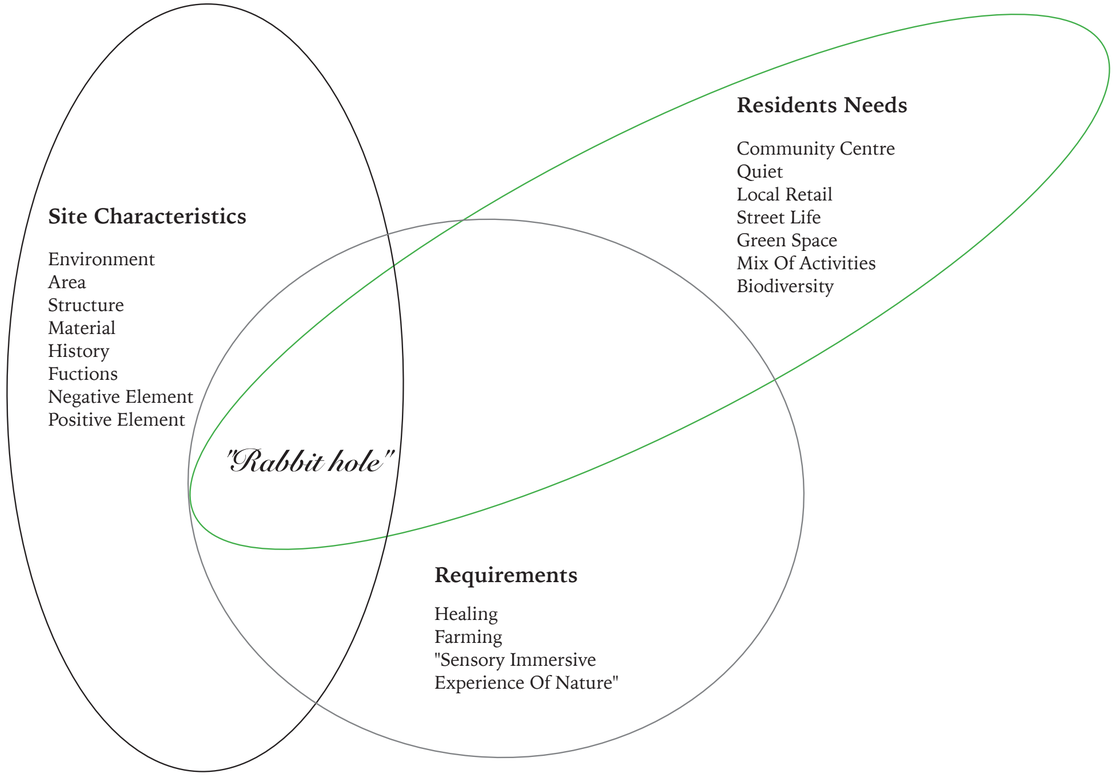
Image 2 Future
Future

Community Planting

Make Cities Green, Suburbs Wild, And Get People Close

The ambition of this project is to propose a new community agricultural model that improves the abandoned indoor space of the community to grow crops. In the near future, countless urban community farms can make cities green and feed the urban population. Perhaps they will replace large industrial farms at the expense of forest destruction and return suburbs to the wild.
Brandon mews project is an examplar.
#sustainable #communication #growing technology #indoors #residents #plants

Direct causes of deforestation are agricultural expansion

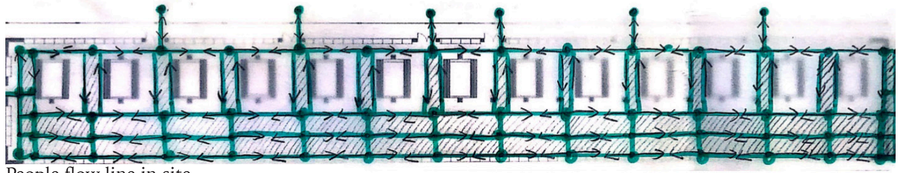


FUNCTION ANALYSIS

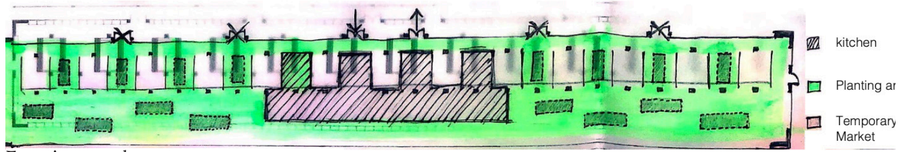
	Public (Residents and visitors using together)							Semi-public (Residents sharing together)							Private (Individual residents using only)						
	Mon	Tue	Wed	Thur	Fri	Sat	Sun	Mon	Tue	Wed	Thur	Fri	Sat	Sun	Mon	Tue	Wed	Thur	Fri	Sat	Sun
Kitchen						●	●	●	●	●	●	●									
Growing								●	●	●	●	●	●	●							
Market						●	●														
Lake entrence						●	●	●	●	●	●	●									
Exist entrences						●	●	●	●	●	●	●									
Secret entrence															●	●	●	●	●	●	●

Equipments Using Method		
Equipments	Public using	Private using
Cooker		
Kitchen operating table		
Cooking tools		
kitchen sink		
Tables & seats		
Hydroponic things		
Garden tools		
Shelfs/Tables		

Functional Layout In The Site



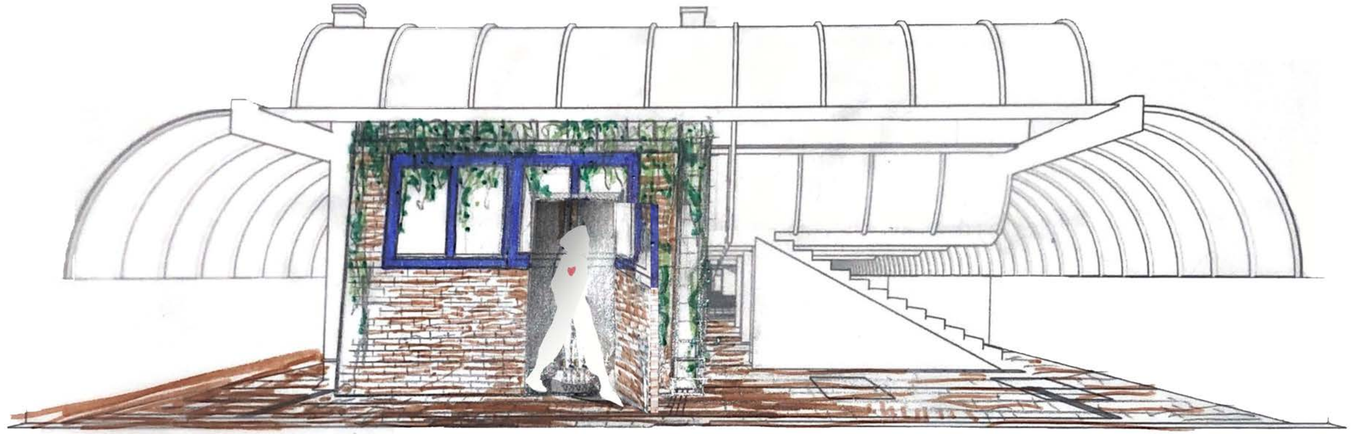
People flow line in site



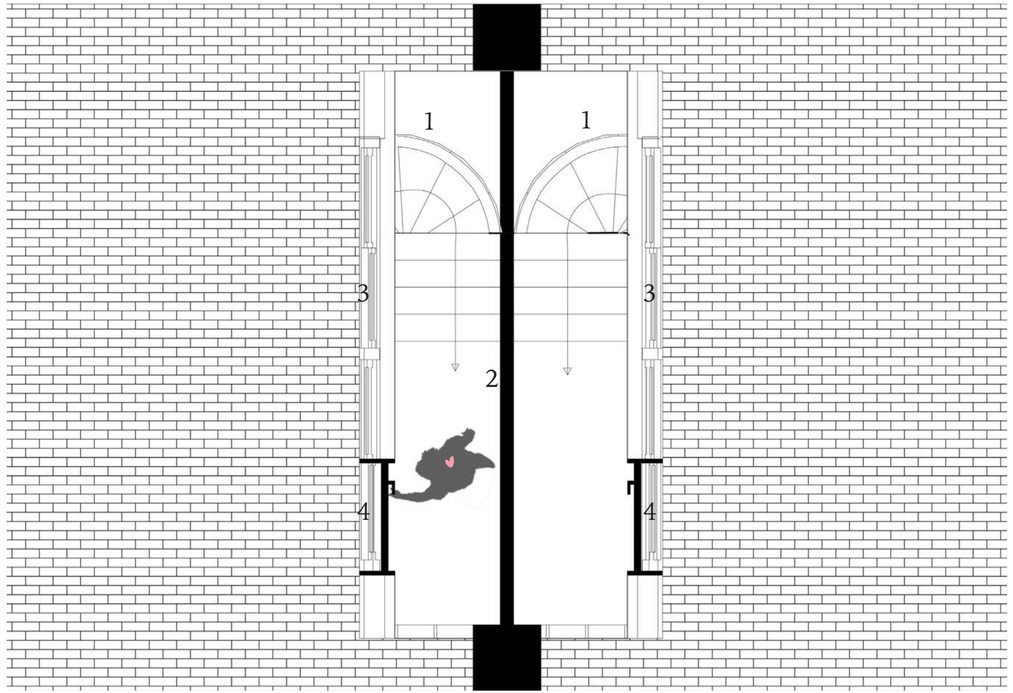
Function area layout

A Hole

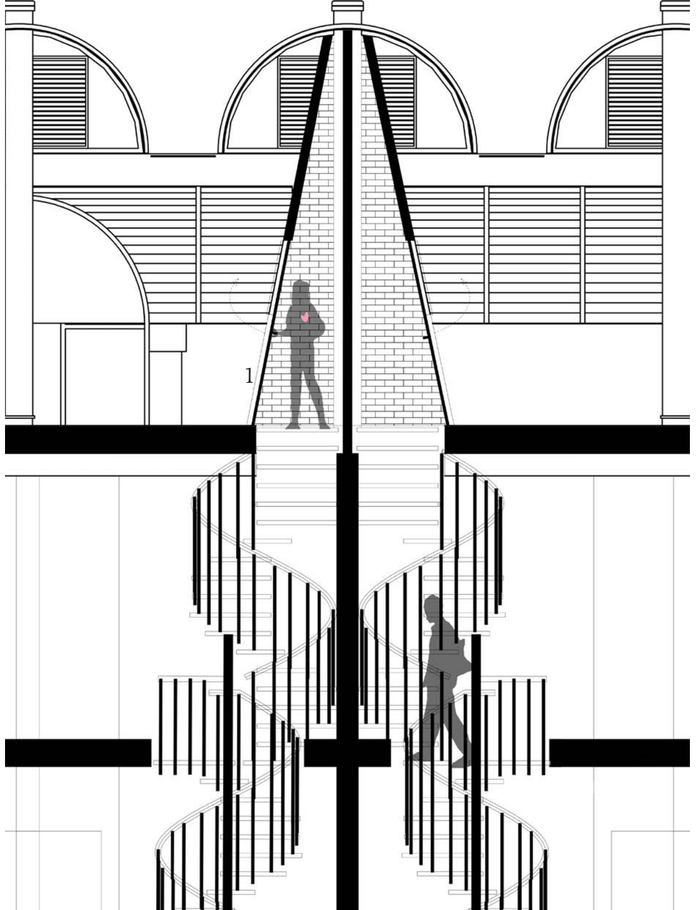
Suddenly, she saw a mysterious hole, which she had never seen before. The smell of food and the sound of people laughing came out from inside, which attracted Alice entered into the hole. She came to the other end of the hole, opened the small door and went out.



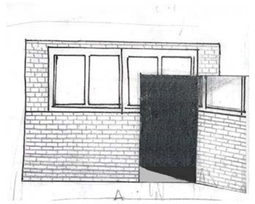
The Secret Entrance To The Roof.



1. Staircase
2. Partition wall
3. Window
4. Door



The door of this mysterious entrance has the same surface as the original roof, so it is concealed and difficult to be discovered, and only the residents corresponding to this entrance can use it.



Plant with "crazy units"

People teach Alice to grow vegetables with some "units".

These units is foldable and modular, which is easy to get started farming for beginners.

Plant Growth Conditions And Human Comfort.

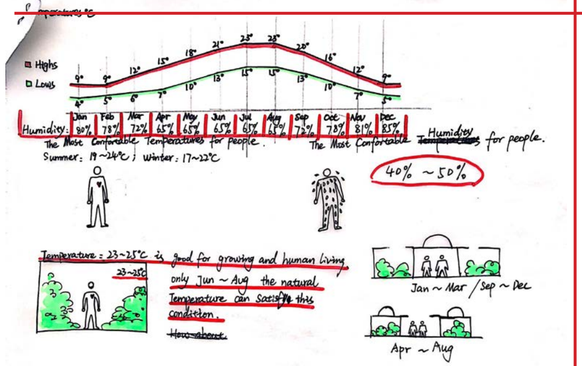
Temperature

Temperature 20 ~ 25 °C : almost Satisfy the most of Plant's growing conditions.

Plant species	Examples	The Best Growthing Temperature Interval
Arbor	lemon tree	10 ~ 32 °C
	Edible Rose	15 ~ 25 °C
Shrub	Rosemary	10 ~ 25 °C
	~~Salvia officinalis~~	~~20 ~ 23 °C~~
	blackberry	10 ~ 25 °C
	Fig	22 ~ 35 °C
Vine	Loofah	20 ~ 30°C
	Rapunzel	20 ~ 30°C
Herb	Salvia officinalis	20 ~ 23 °C
	Basil	20 ~ 30 °C
	tomatoes	20 ~ 35 °C
	Parsley	15 ~ 20°C
Alga	Caulerpa lentillifera	23-28 °C
	Spirulina	20–35°C
Mushroom	Monkey head mushroom	~~21 ~ 25°C~~ ~~15 ~ 23 °C~~ 15 ~ 25°C
	Oyster Mushrooms	

Humidity

Plant species	Examples	The Best Growthing Humidity Interval
Arbor	lemon tree	
	Edible Rose	≥ 80%
Shrub	Rosemary	≈60%
	Blackberry	60% ~ 80%
	Fig	≈70%
Vine	Loofah	75% ~ 85%
	Rapunzel	70% ~ 85%
Herb	Salvia officinalis	70% ~ 80%
	Basil	
	tomatoes	
	Parsley	
Alga	Caulerpa lentillifera	100%
	Spirulina	100%
Mushroom	Monkey head mushroom	85% ~ 95%
	Oyster Mushrooms	70% ~ 90%



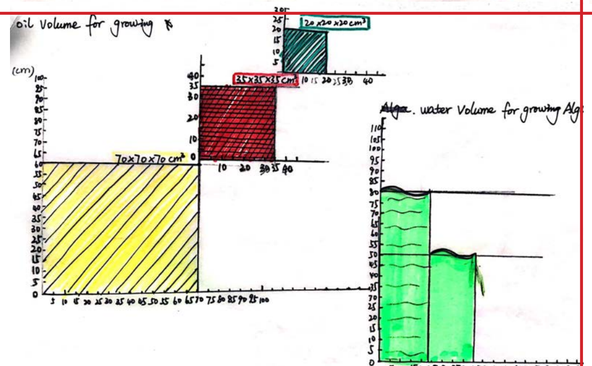
Nutritions N:P:K &PH Value Soil/Water Volume

Soil

Plant species	Examples	The Best Growthing soil condition		
		Nutrions N:P:K:	PH value	Volume
Arbor	lemon tree	~~3:1:2~~	5.5~6.5	35x35x30cm³
	Edible Rose	/	6.5~7.5	60x60x60 cm³
Shrub	Rosemary	N:P:K=1:1:1	6.5~8.5	20x30x30cm³
	~~Salvia officinalis~~	~~20:10:20~~	~~5.5~6.5~~	~~30x30x60cm³~~
	blackberry	10:10:10	5.5~6.5	20x20x20cm³
	Fig	1:2.3:0.7	7.2~7.5	60x60x60cm³
Vine	~~Loofah~~	1:2.3:0.7	6.5~6.5	60x60x60cm³
	Rapunzel	K:1:0.2	5~7	30x30x30cm³
Herb	Salvia officinalis	20:10:20	5.5~6.5	>10x10x10cm³
	Basil	15:15:15	≈7	>10x10x10cm³
	tomatoes	1:2.8:2	≈6~7	20x30x30cm³
	Parsley	15:15:15	5~7	>30x30x30cm³
alga	Caulerpa lentillifera			
	Spirulina			
Mushroom	Monkey head mushroom		6.0% water in bate medium	
	Oyster Mushrooms.	60% ~ 65% water in medium.		

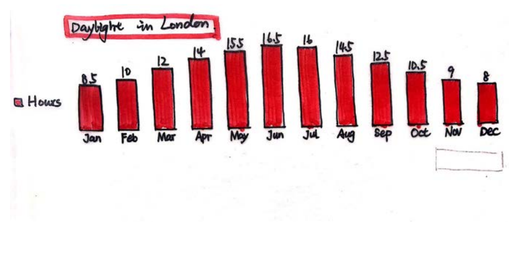
Water Culture

Plant species	Examples	The Best Growthing water condition		
		Nutrions N:P:K	PH value	Volume
Arbor	~~lemon tree~~			
	~~Edible Rose~~			
Shrub				
Vine				
Herb				
alga	Caulerpa lentillifera	n:p=8:1		0.5-0.8 m deep
	Spirulina		10-10.5ph	
Mushroom				

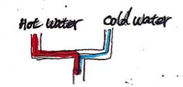


Light

Plant species	Examples	The Best Growthing light condition
Arbor	lemon tree	natural light 6~8hr
	Edible Rose	natural light 6~8hr
Shrub	Rosemary	natural light 6~8hr
	~~Salvia officinalis~~	~~natural light 6~8hr~~
	blackberry	6~8hr natural light
	Fig	8hr natural light
Vine	Loofah	3~5 hr natural light
	Rapunzel	2~3 hr white light or natural light
Herb	Salvia officinalis	natural light 6~8hr
	Basil	≈ 6hr natural light
	tomatoes	≈ 6hr natural light
	Parsley	≈ 6hr natural light
Alga	Caulerpa lentillifera	more blue light or low white light
	Spirulina	Greenhouse light or natural light.
Mushroom	Monkey head mushroom	no light for ~~baby~~ baby mushroom
	Oyster Mushrooms	yellow light for mushroom growing bigger.



Condition Controlling Methods

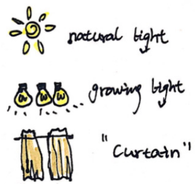


Temperature controlling

- Hot Water
- Cold Water
- Light

Nutrition controlling

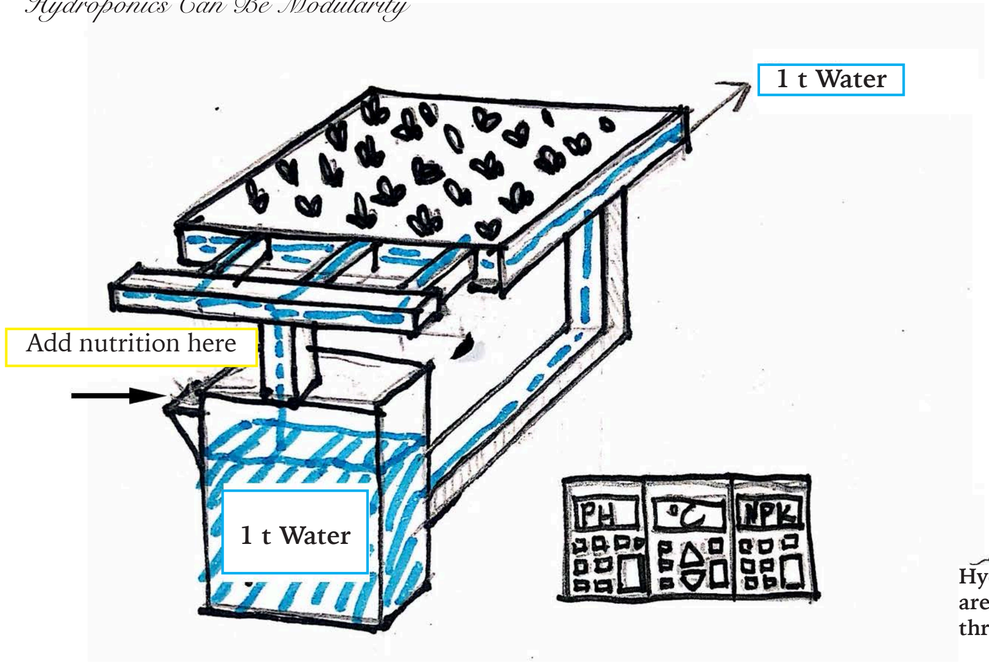
- Surveillance System

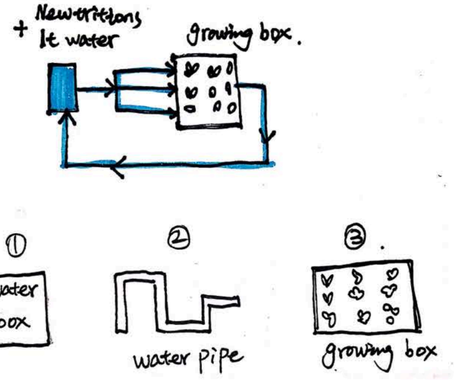


Light controlling

- Natural light
- Growing light
- Curtain

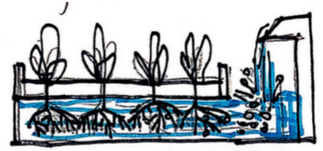
Hydroponics Can Be Modularity



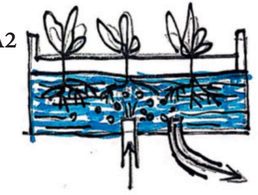


Hydroponics can be simplified into three parts,which are water box, water pipe and growing box. And these three parts from a cyclic system.

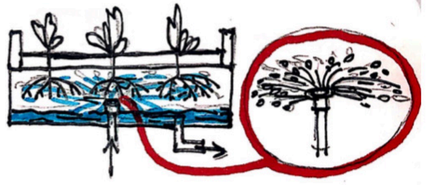
A1



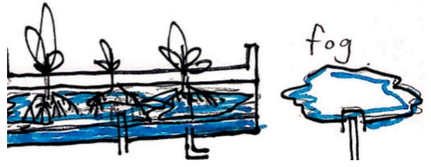
A2



B



C



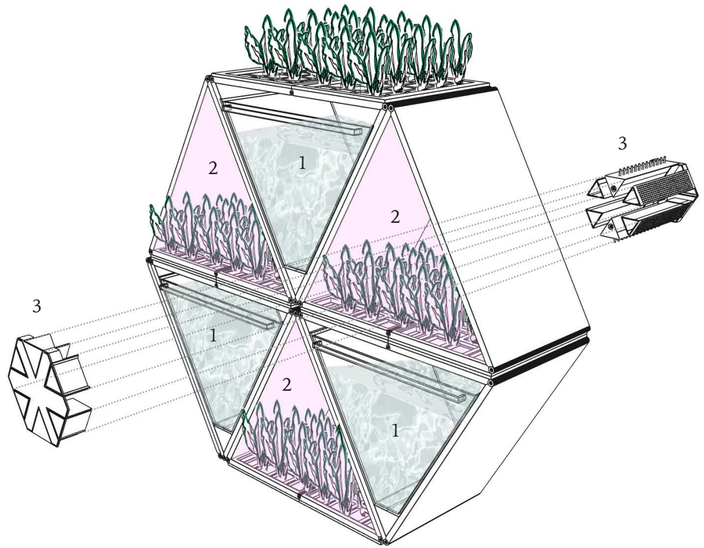
A1, A2, B and C all need circulating water

A1&A2: Running water brings air.
The roots immersed in water.

B: Spray water brings air and water.
The roots did not immersed in water.

C: Water is atomised.
The roots immersed in fog.

Modular Hydroponics Instructions

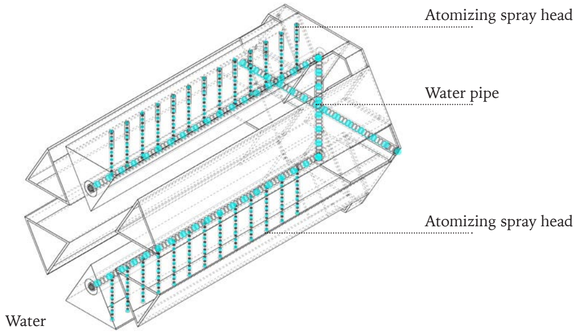


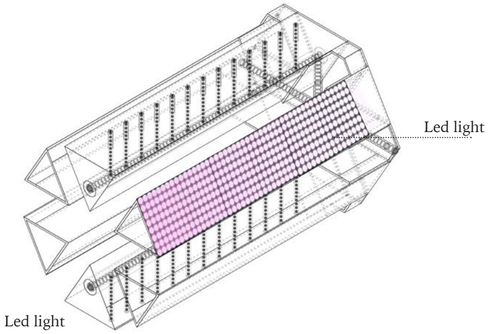
1. Triangular shelf unit with water box

2.Trianglular shelf unit

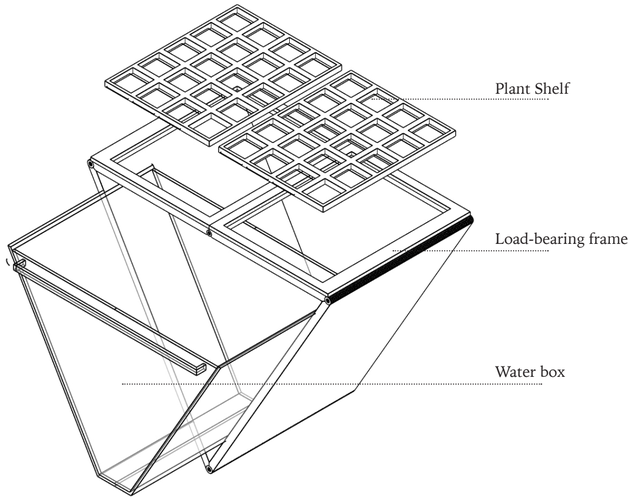
3.Tenon connector with lighting and irrigation function

Connector Interior Structure



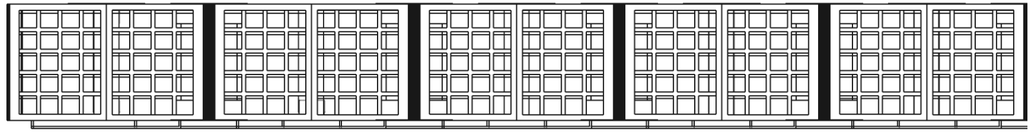


Triangular Unit Structure

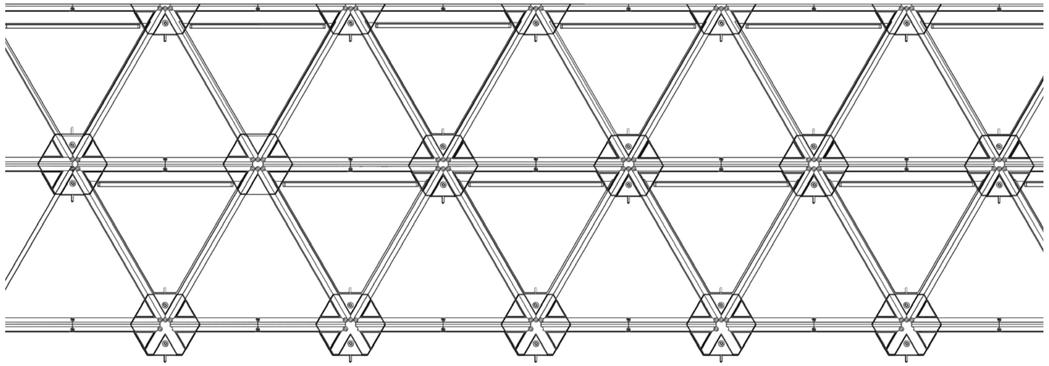


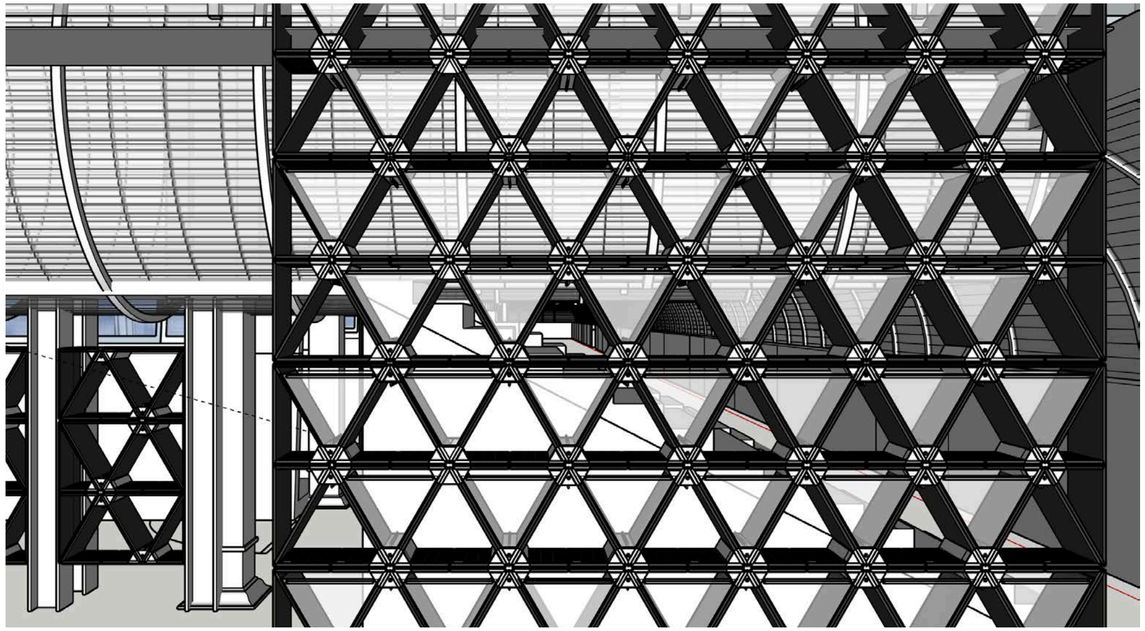
Folding steps

Plan

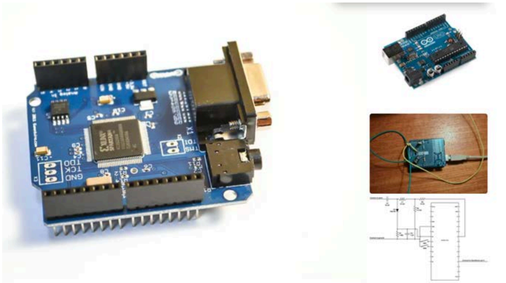


Section

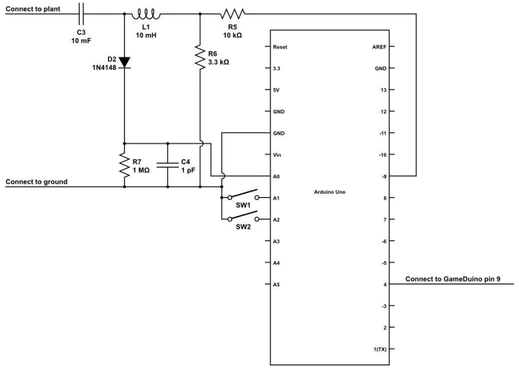




Communicate with Plant. Make Your Plant Sing With Arduino.

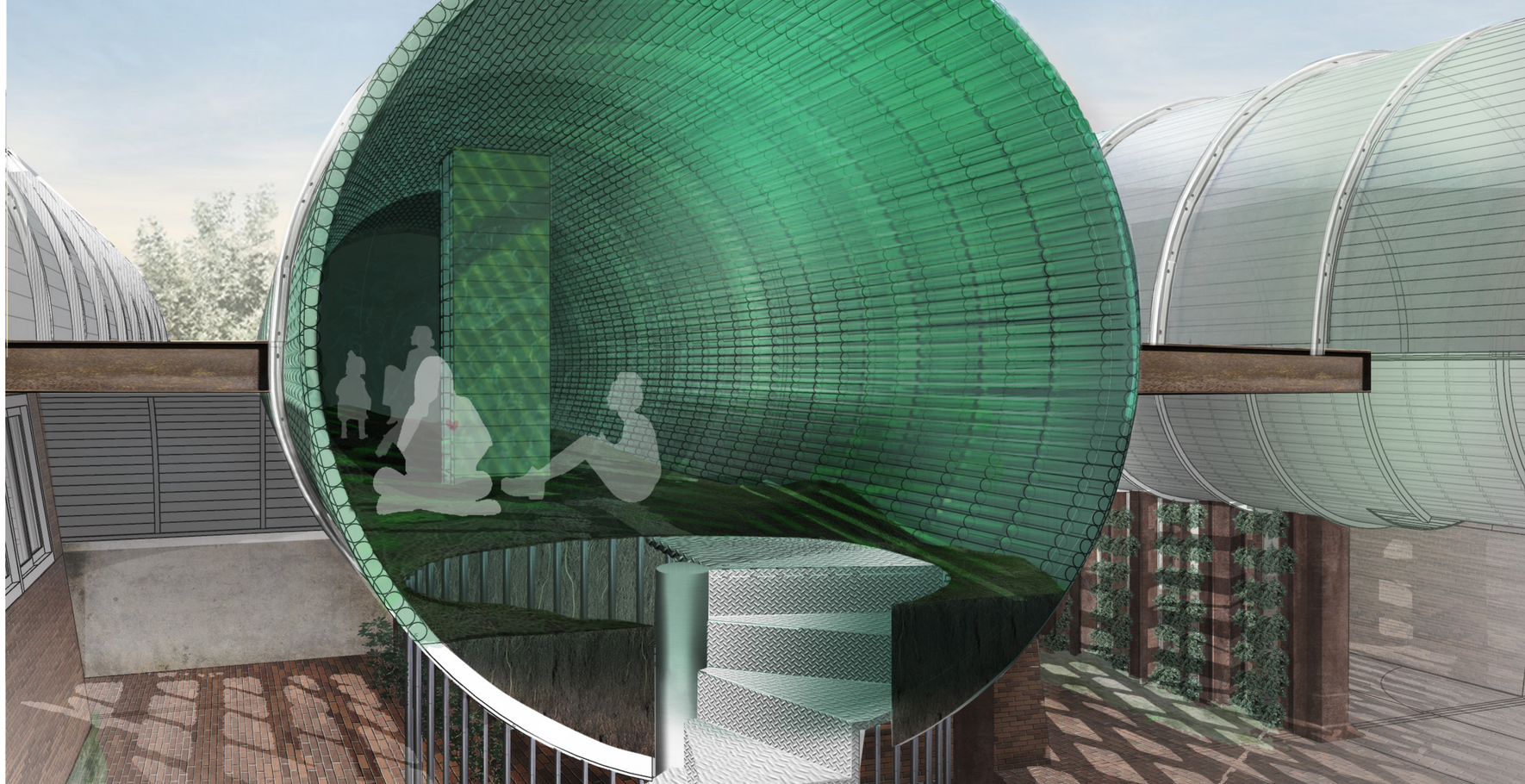


picture from https://www.instructables.com/id/Singing-plant-Make-your-plant-sing-with-Arduino-/



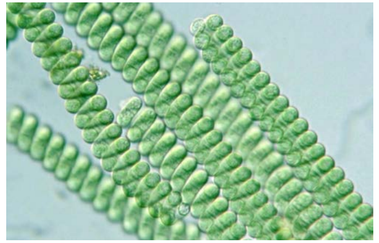
The alga bar

A huge "tube" was above her field of vision, below which was a shelf full of plants. "wow! I can't believe it!" Alice walked towards the tube. Alice walked up the stairs and entered the tube, there are a few people were drinking and chatting. They invited her to join them and handed her a glass of green water.



Superfood

Spirulina



Spirulina Growth Conditions

Light		Nutrition	Water
Greenhouse light or natural light whole day	20~35°C	NaHCO3 KNO3 NaCl KH2PO4 FeSO4 MgSO4	10-10.5ph
Spirulina's reproduction is asexual. Given the right conditions (temperature, lights, fertilizers, agitation) it doubles itself approximately every 48 hours.			

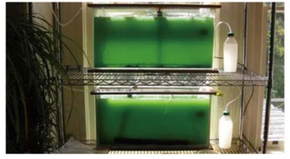
Co2 Fixation

"Algae are some of the most efficient carbon dioxide scrubbers in the air, with 10 times greater CO2 fixation than terrestrial plants," explained the designer.

Spirulina Micro-farm

Graduate designer Hyunseok An wants to highlight the role that "unappreciated" algae could play in our diets by creating an indoor micro-farm for the home.

How People Grow Spirulina At Home.



How To Include Spirulina In The Diet

Add it to smoothies, which gives 1.The drink a green color
2.Sprinkle spirulina powder on salads or in soups
3.Mix it into energy balls, along with other healthful ingredients
stir a tablespoon into fruit or vegetable juices

Spirulina may be the single most nutritious food on the planet.

Initial research suggests taking spirulina may improve the following:
weight loss
gut health
diabetes management
blood pressure
cholesterol
risk of heart disease
metabolic rate
allergy symptoms
mental health

Degradable plastic

The studio of Eric Klarenbeek and Maartje Dros takes on a variety of projects that reveal a range
of interests and expertise, from designing outdoor public spaces and private interiors
With their algae lab, they have made
progress using locally sourced algae to produce
a 3D-printable, degradable bioplastic.

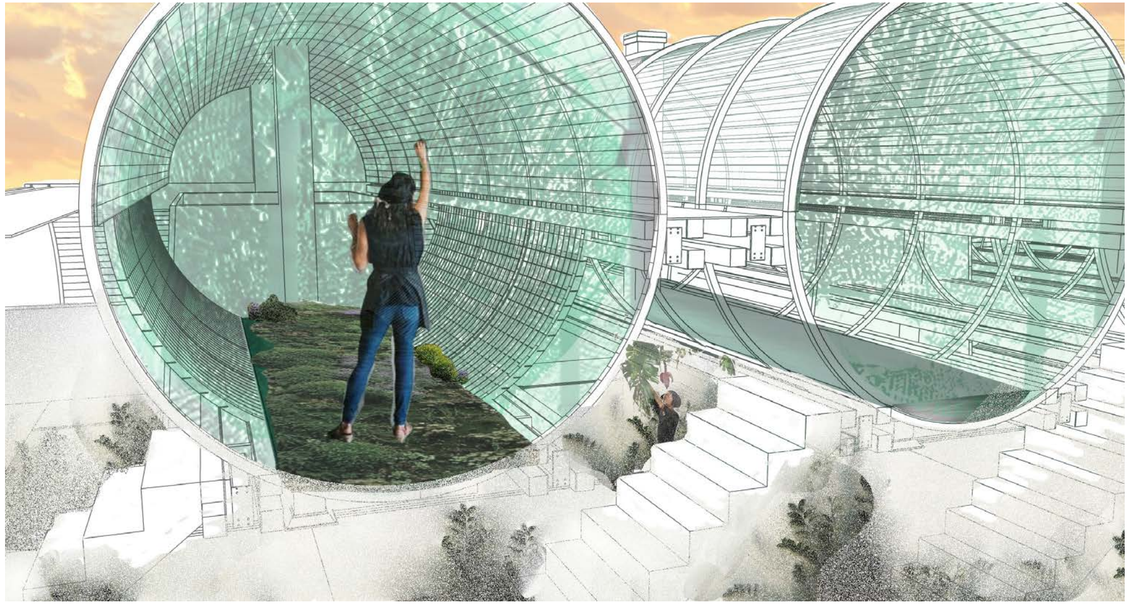
concept

"Alcohol Social" in history and now.

This Brooklyn Park Painted Circles on the Grass to Ensure Social Distancing
People still need lawn social even in the COVID-19 period.

"Milk Social" in Clockwork Orange

"Algae Social" in the future



Instructions Of Algae Bar

1. Algaes are growing

2. Take one glass of algae

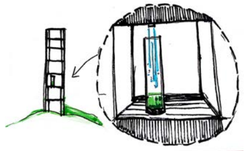
3. Filtrate

4. Dry it or use directly

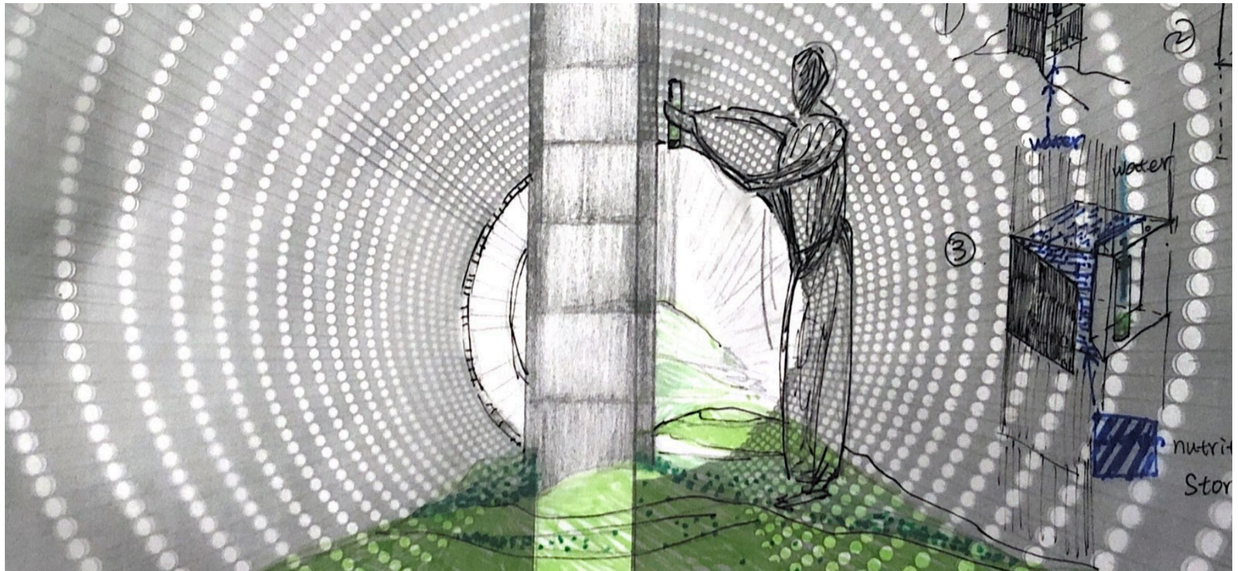
5.Flavor

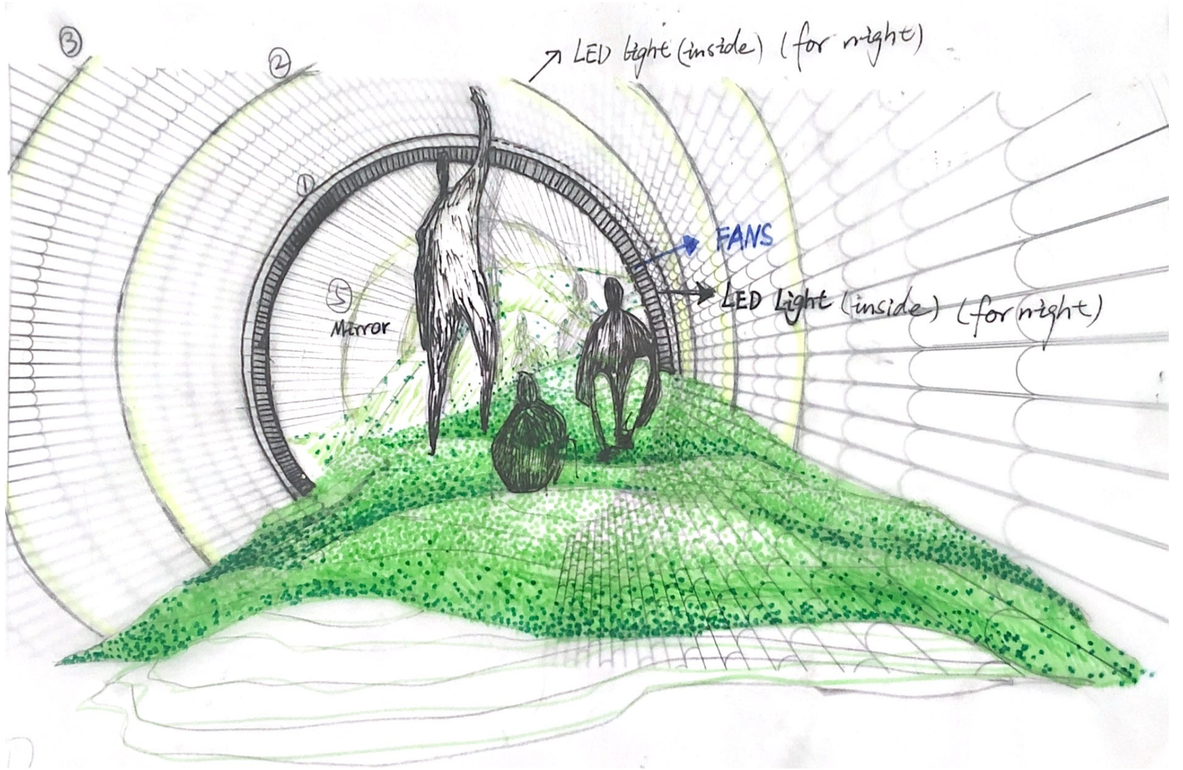
6.Drink

7.Leave some algae for regrowing

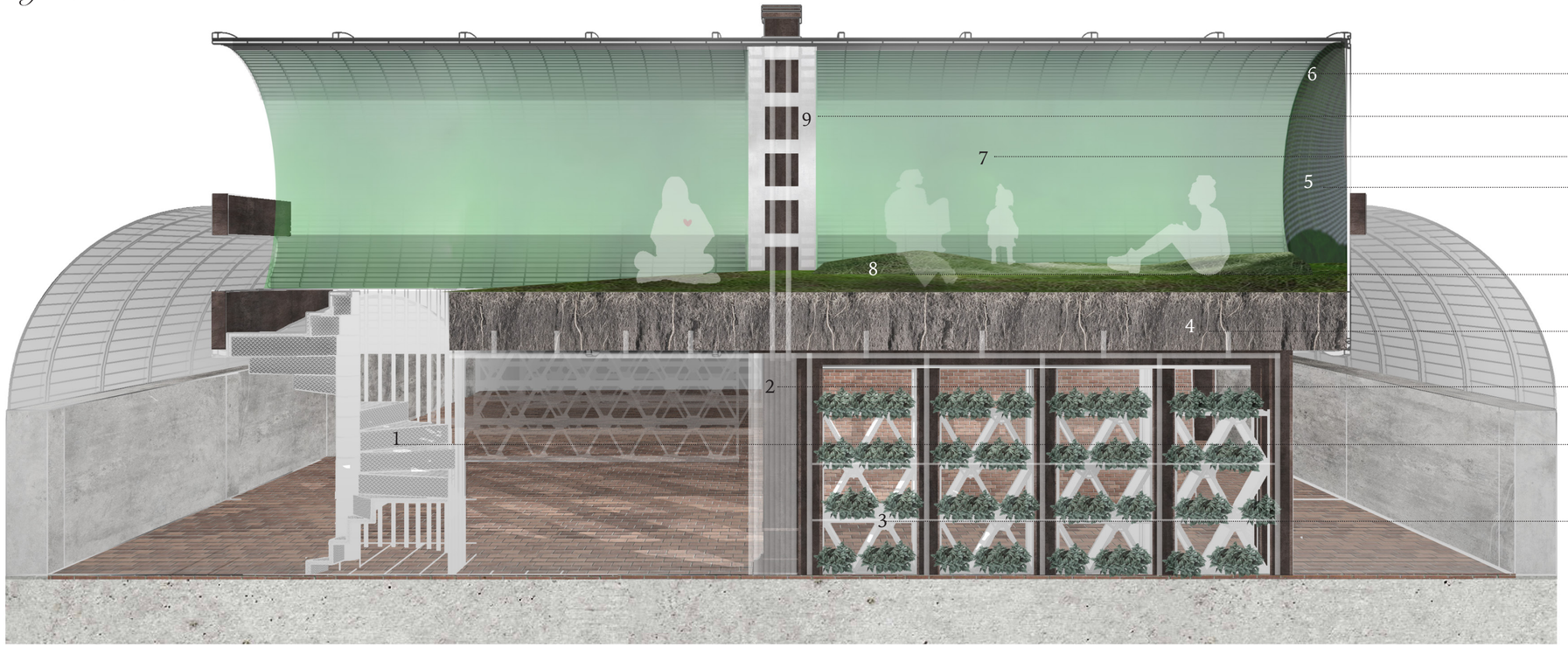


8.Add water and put it back to the shelf.





Algae Bar Section



6 Air circulation fan

9 Drinking fountain with storage function

7 Algae tube

5 Mirror

8 Lawn

4 Soil

2 Transparent water pipe

1 Stairs

3 Hydroponic shelf

Cook with the future people

"We will cook dinner in the central kitchen later. How about join us together? You know, just some vegetables planted by ourselves."the man said. Alice nodded happily and said:"Sounds great!I can help wash vegetables!"

Kitchen Section

1.A passage with Transparent water pipe. (part of the water circulatory system)

2.Concrete planting stairs (soil inside)

3.Stairs

4.LED light wall

5.Mushroom monument (growing mushrooms)

6.Stairs

7.Soil

8.Wheat

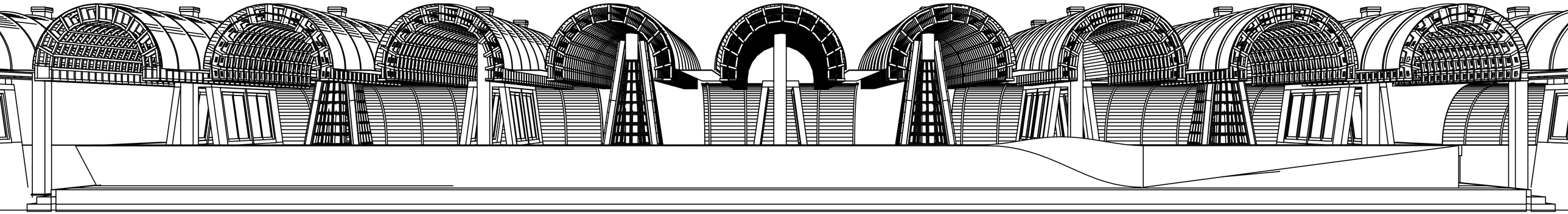
9.Long table for washing, cooking, cutting, and eating.

10. A passage with transparent water pipe.

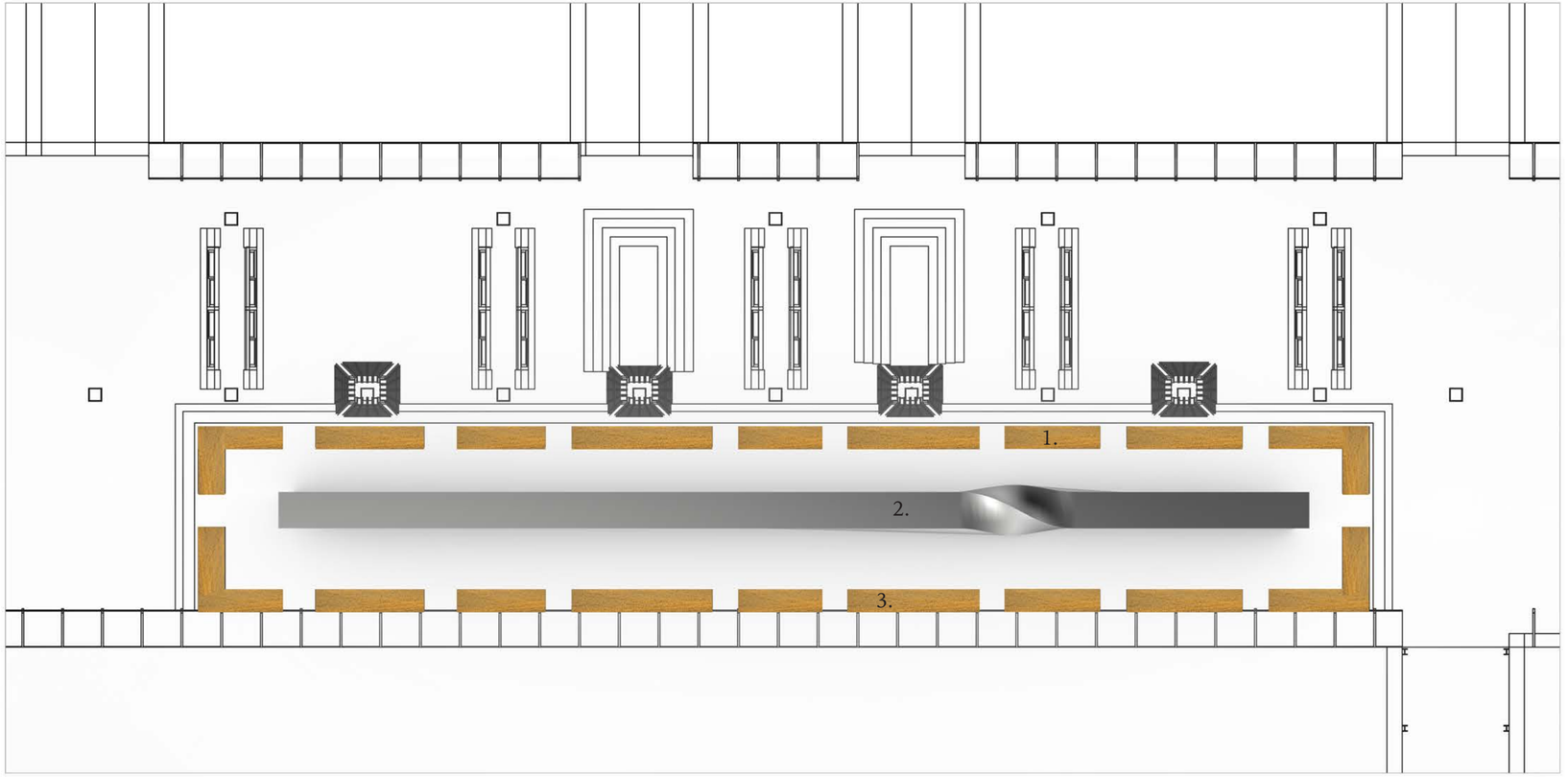
11. Growing shelves. (For growing vines)

12. Soil

Kitchen Structure

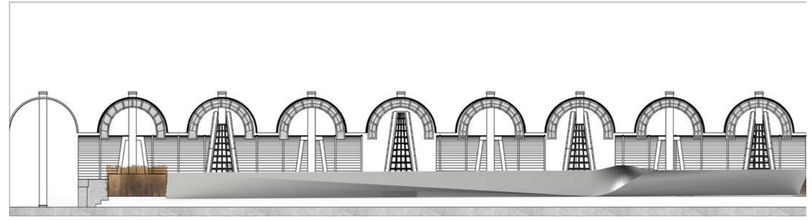


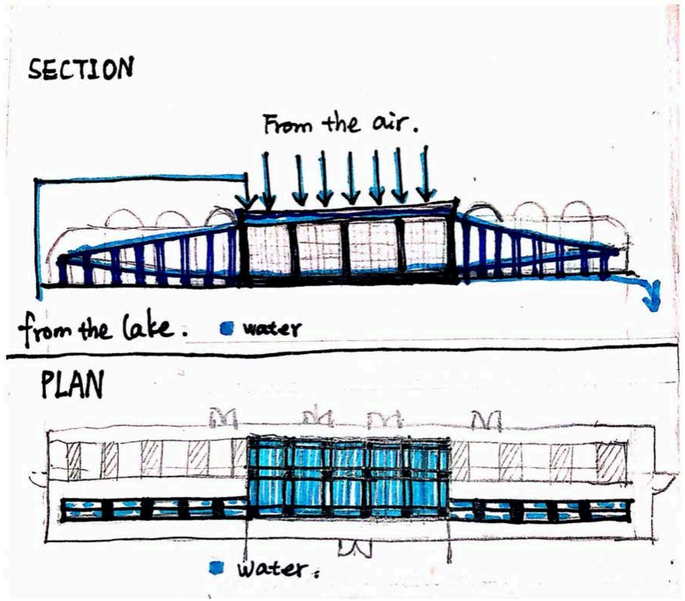
Kitchen Plan

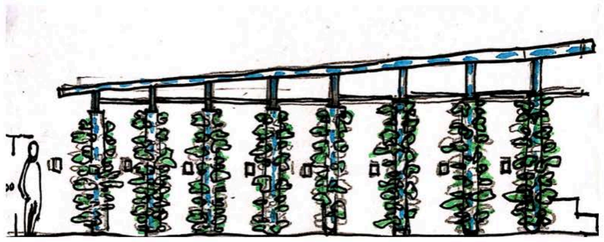


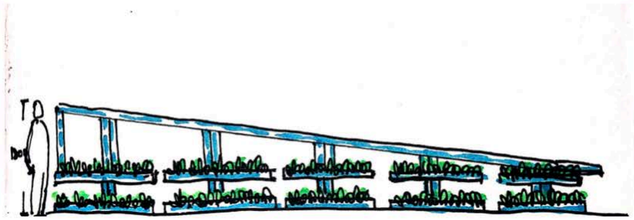
1.Wheat
2.Table
3.passage

Kitchen section









The water are collected from the rain and the lake, which be transported into different height area with two long pipes. And there are angles of these two pipes for using water gravity to transport water.

The cistern is above the public kitchen.

Eventually the excess water will return to the lake

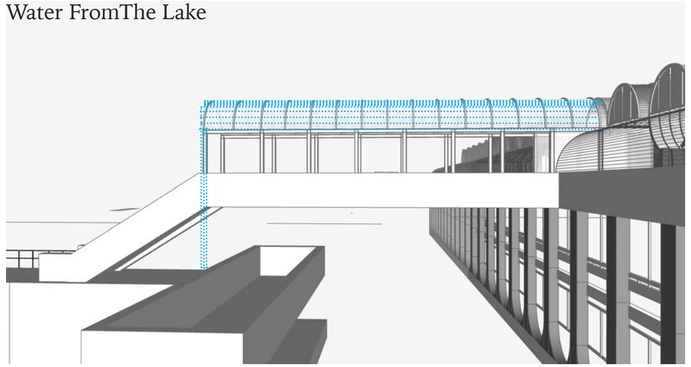
Follow the water

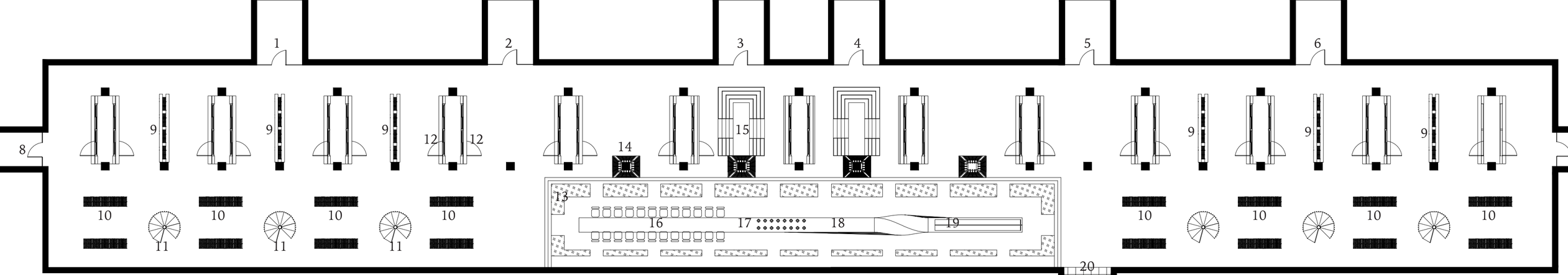
There is water wave light in all the main passages. Alice can't help herself to follow the wave light, then she found out another entrance.

To the center of the lake

Alice followed the water to an entrance to the center of the lake. It turned out that the top of the entire entrance was composed of transparent water pipes that transported the water in the lake to the house for irrigation.

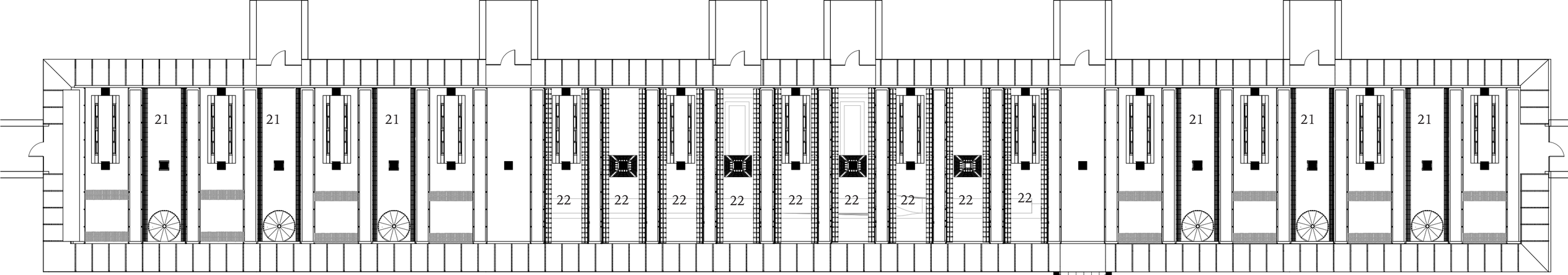
Water FromThe Lake





Lower Level Plan

1~8.Exist Entrence
9~10.Modular Hydroponics shelf
11.The stairs of algae bar
12.The secret apartment entrence
13.Wheat
14.Mushroom monument
15.Concrete planting stairs
16.Seats
17.Cookstove
18.Cutting area
19.Sink
20.The lake entrance



Higher Level Plan

21.Algae bar
22.Vine shelf

So This Is The "Rabbit Hole" Story.

It Is Inspired By Alice In Wonderland, An Animism World.

Similar like theAlice In Wonderland story, after entering the rabbit hole, humans are no longer the only animals with souls. All creatures have souls and can talk to each other equally. I want people to reconnect with nature, so I created this rabbit hole in the city.

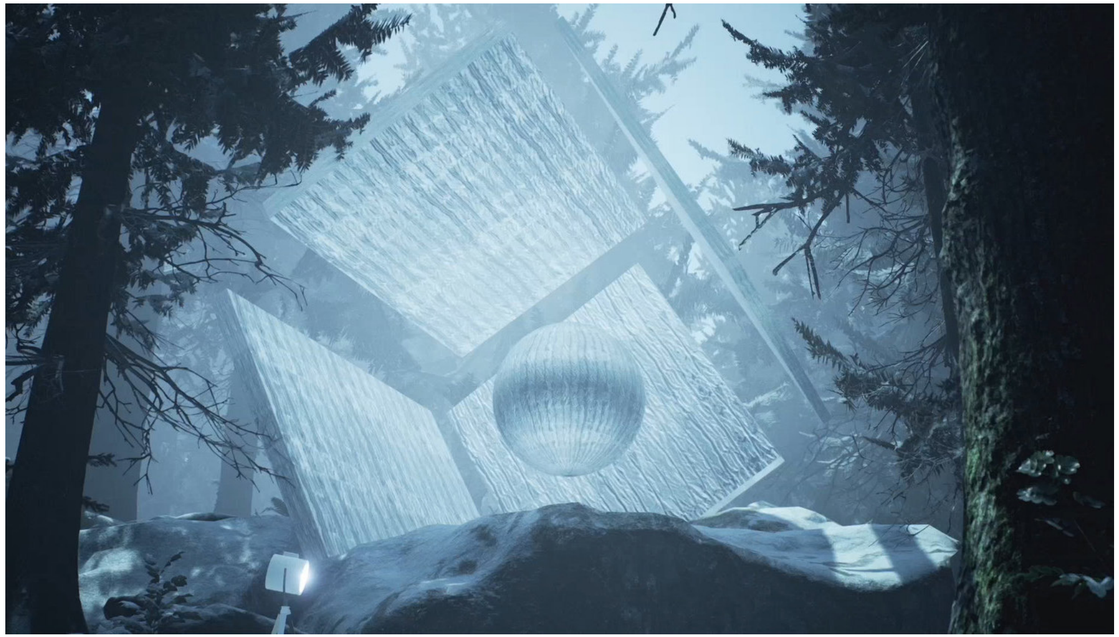


Image From Jakob Kudsk Steensen's Project_Terratic Animism (Room-Scale VR)

THANKS FOR READING

YIBEI DONG FUTURE