

FRAN SILVESTRE

PORTO ACADEMY
FAUP

2018
20–27 JULY

37°C. Architecture in extreme environments

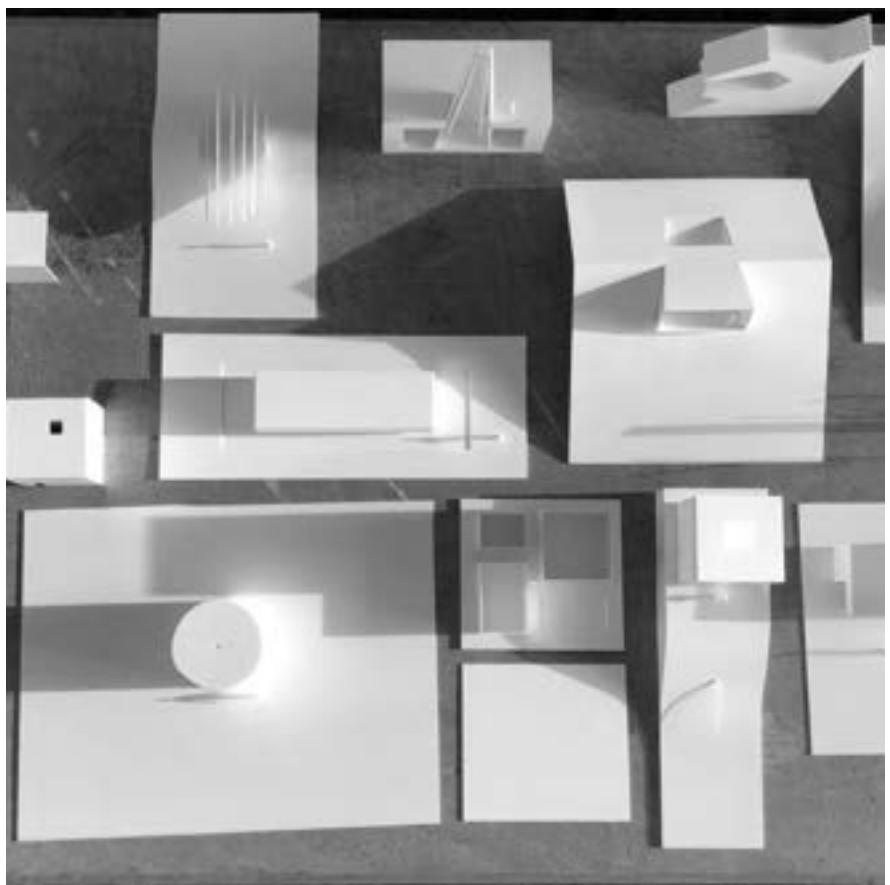
The aim of the workshop is to reflect on the ability of architecture to guarantee the human body the ideal temperature and environmental conditions for its survival. For this, a series of locations are presented where the climatic conditions are very extreme, from the hottest and driest places, to the coldest and雨iest, taking into account other aspects such as wind, snow or fog. From this point, a work of analysis of each place and its traditional architecture is generated, including the morphology and construction techniques.

Is about generate an innovated tradition that allows to conceive the buildings that have functioned optimally during the history of humanity with a contemporary language.

The expected result is intended to be forceful and direct, and for this a fluid and enjoyable work system is generated that combines different techniques that offer results of great interest in a very short time. The work with the models, the sketches, the writing of short texts, the conception of the space through the geometry and the functional diagrams, the images and the sensations and atmospheres that are generated, are the main procedures to reach the described objectives and achieve an efficient beauty.







Chapel of the Desert Fog

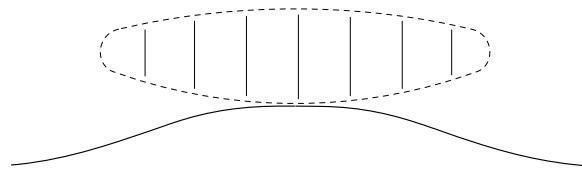
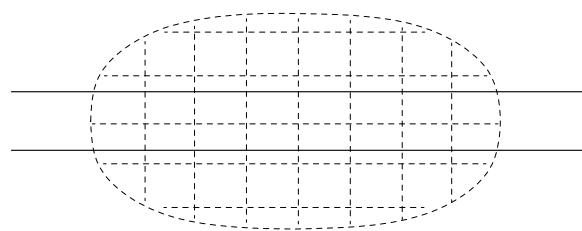
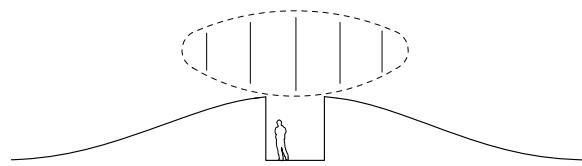
Aaron Cleveland

Namib Desert, Namibia - Foggiest conditions

Chapel of the Desert Fog pays tribute to what provides the Namib Desert with life. In the same way a Namib Desert Beetle harvests water, the Chapel pulls condensation from the fog and allows visitors to both see and hear this water. Formally, this Chapel is reminiscent of fog itself. Shrouded in a fog-catching mesh, it sits atop a berm collecting this condensation. A cut through the berm brings visitors underneath this object and allows them to experience this water collection.











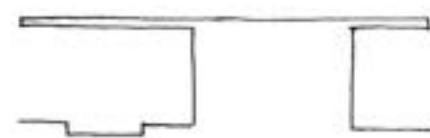
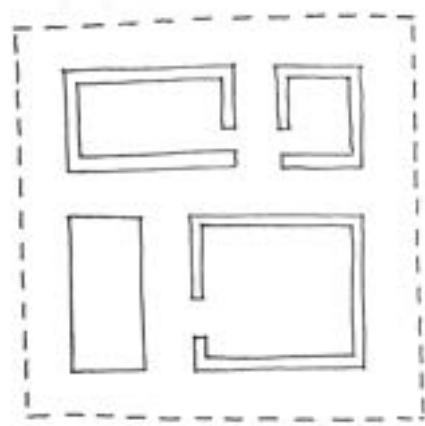
The “In-Between” House

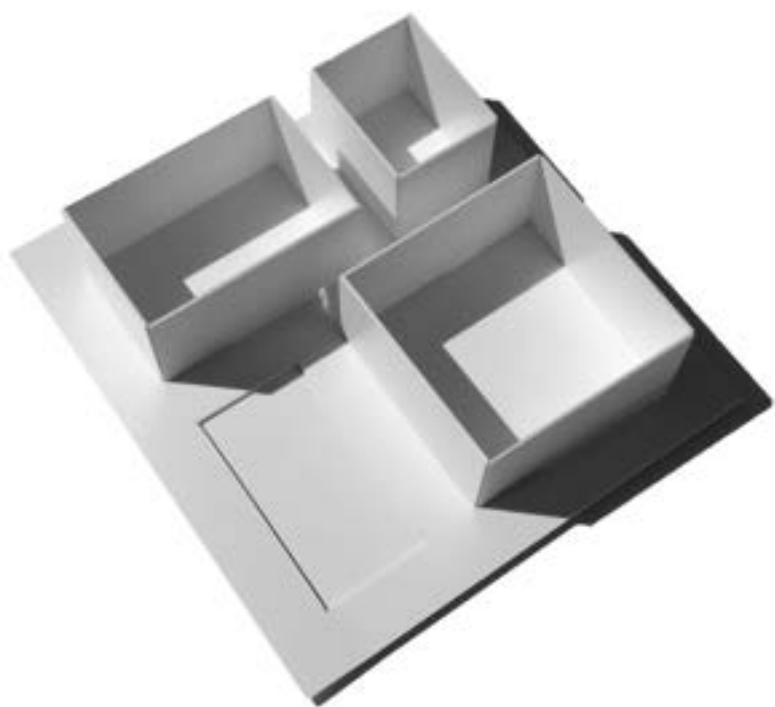
Amina Basha, Rei Braho

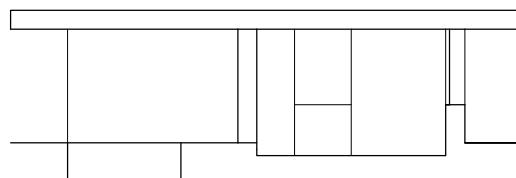
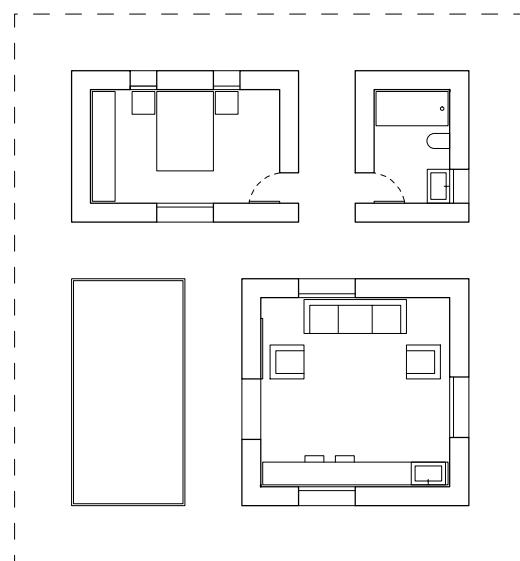
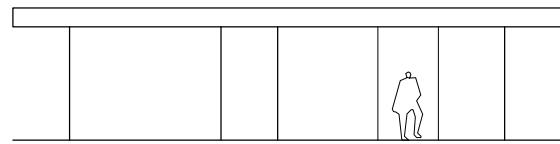
Death Valley, California, US - Hottest conditions

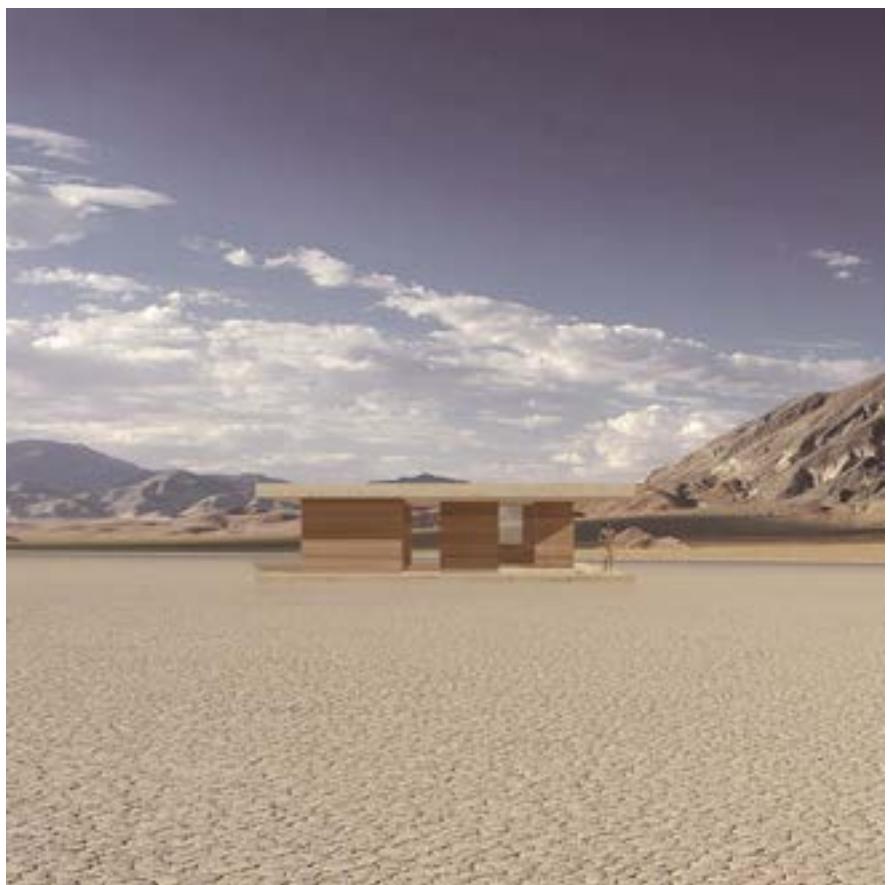
A single but multiple space. A house which belongs to one and many people.

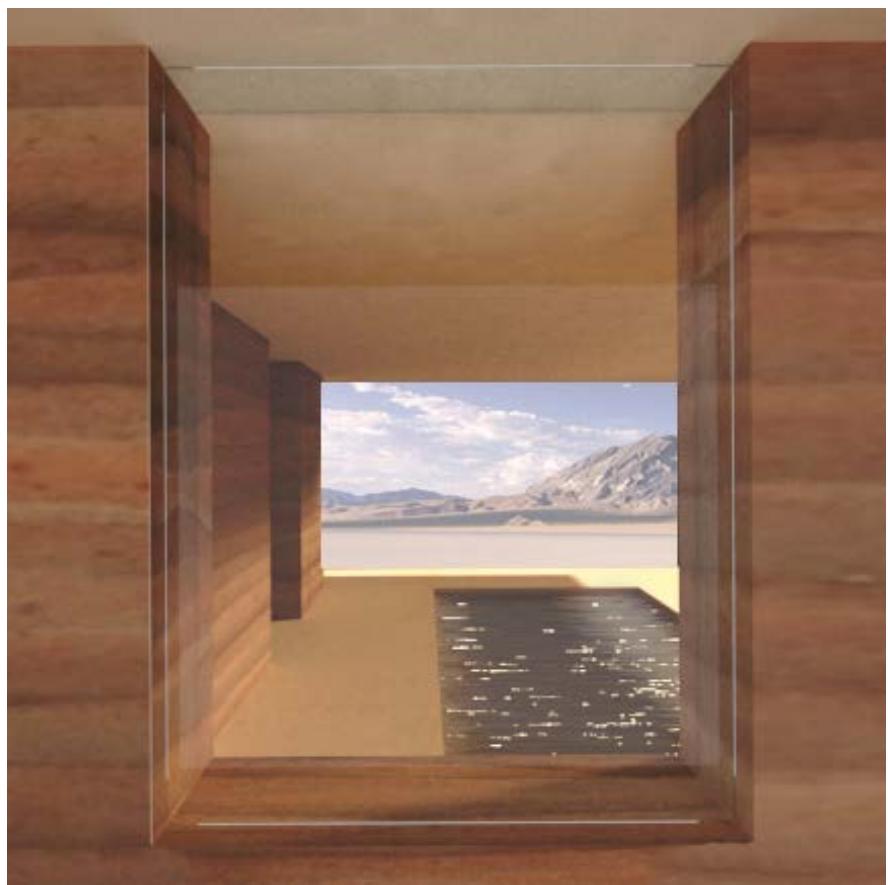
Strictly separated compact rooms but smoothly connected by the half-interior landscape. The object stands in thick rammed earth, one of the poorest heat conductors, which looks like a continuity of landscape. The glass and water linked to the rammed earth bring freshness to one of the hottest places on earth.











Snowlantern

Ana Abril

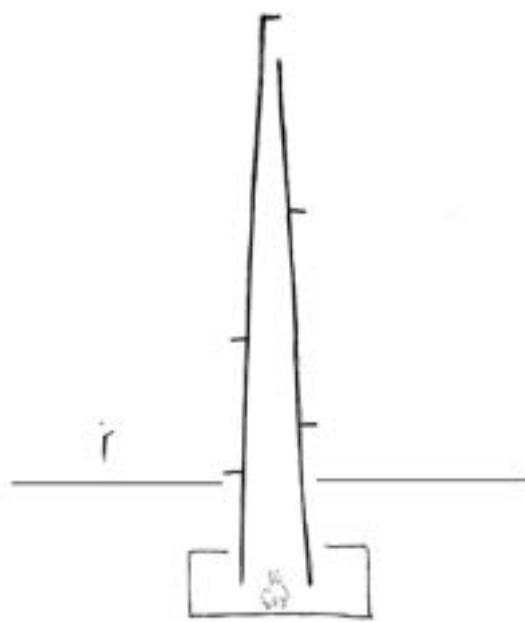
Alps, Switzerland - Snowiest conditions

you are alone and lost
after the long road
when the cold presses
and the fog is dense

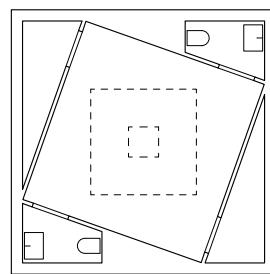
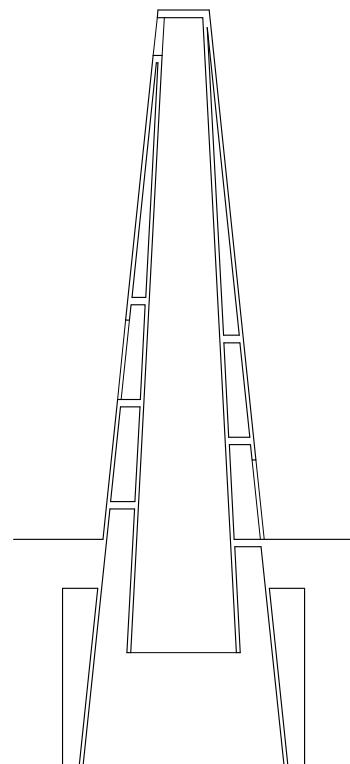
suddenly you see

a black beacon of hope on the snowiest horizon
a descent into the bowels of the earth
a burning column

now HELL is the saviour on EARTH









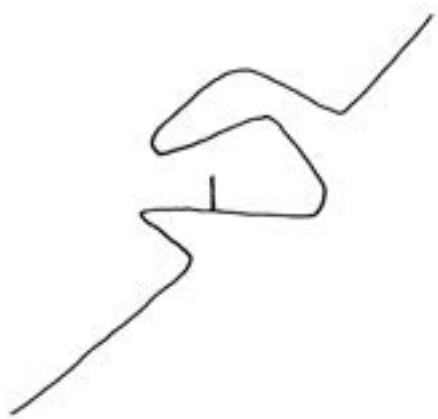


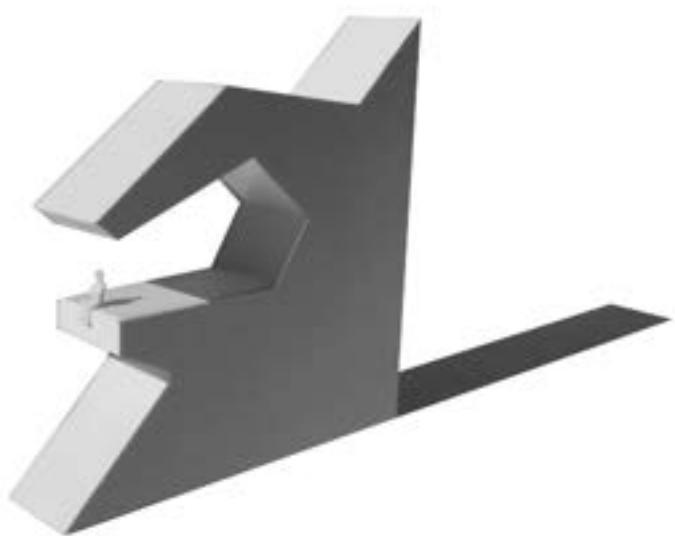
The Stone

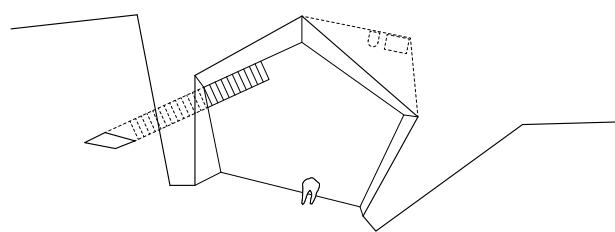
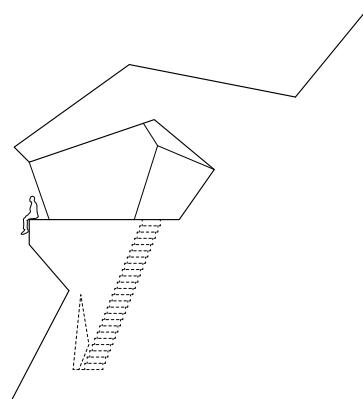
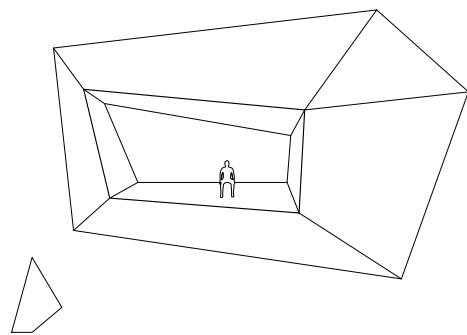
Andrea Picchianti

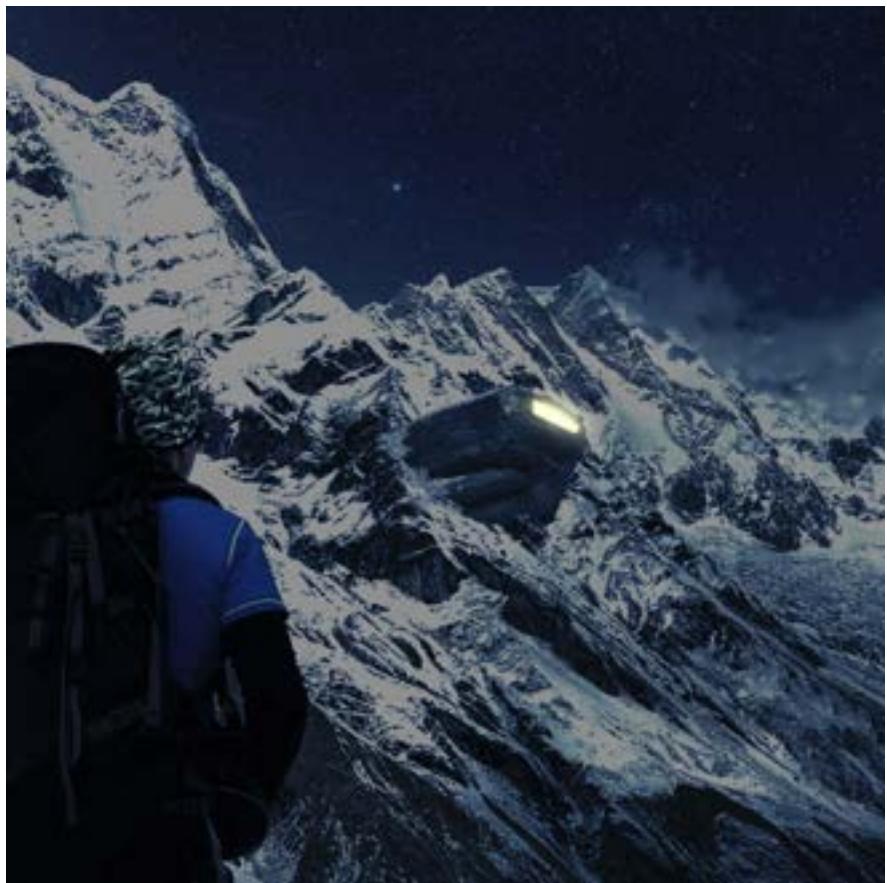
Mount Everest, Nepal - Windiest conditions

Rock is part of the ground we walk on every day, just as sky is part of the landscape we look at all time. The first one makes us feel protected and well anchored, while the second one makes us feel free and light. In extreme climes, like the Everest Mount one, men feel small and powerless in front of the materiality of the rock, that blends with the vastness of the sky. All we need is to stop and to observe the beauty of what surrounds us. To survive the force of nature we have to adapt to the environment where we are. Into 'the stone' we can find the protection that we need, listening to the sound of wind breaking on the thick walls.











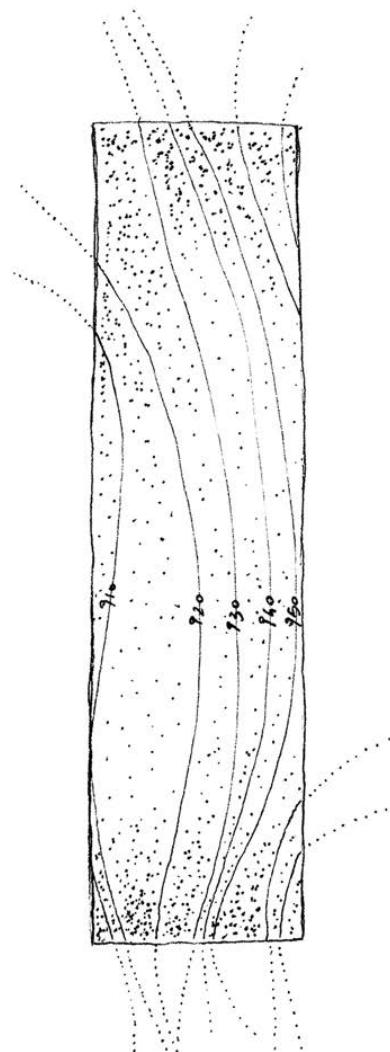
Casa do Ar
Attilio Ranieri

Namib Desert, Namibia - Driest conditions

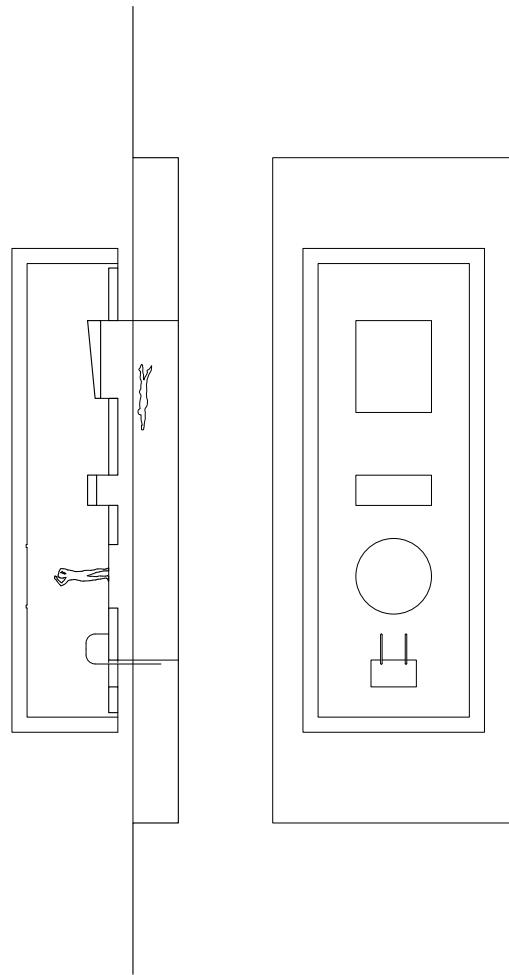
Imagining a foggy day in Namibian desert I realized I never thought about the idea of Fog as design tool or environmental context. I decided to keep a “dissolving” approach to the research for this project. The Main target or direction is to imagine a space where the main actor is something invisible: the air, or the atmosphere.

The idea is to investigate this topic through unclear questions: How can we map and make visible (and enjoyable) natural phenomena as atmosphere, pressure, vapour? Can we enable Architecture to influence atmosphere and his perception? How visibility and distance affect our perception of private space? Can you imagine a house designed by natural phenomena as light, air, temperature?

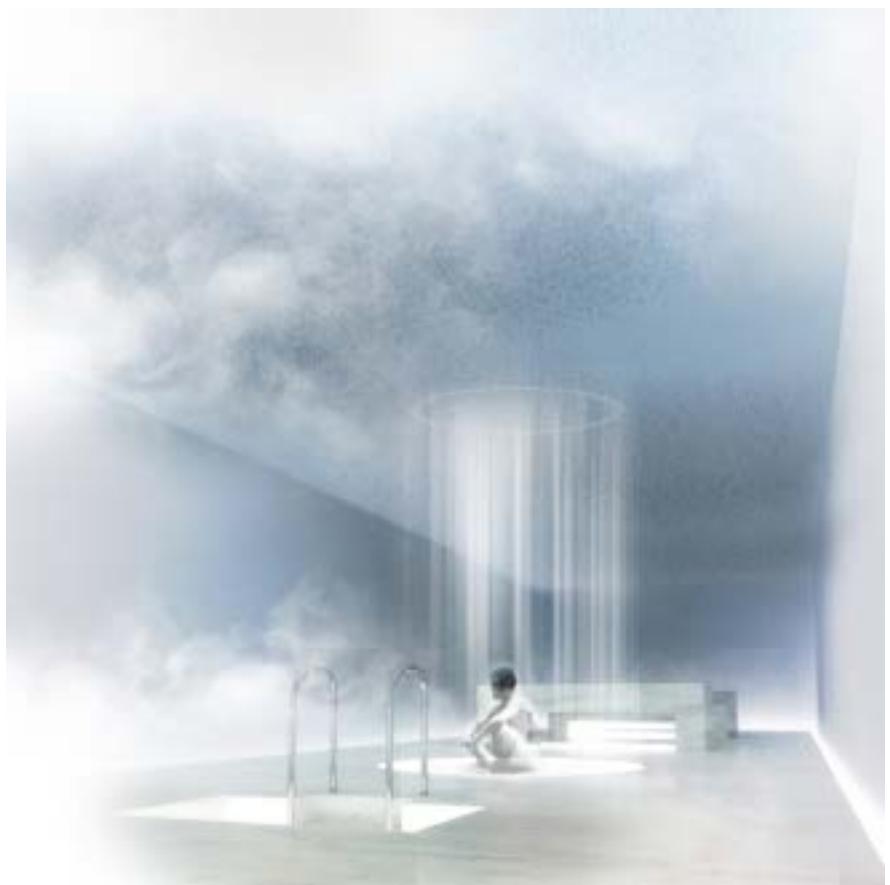
Hopefully the outcome will have to do with the possibility of finding clear definitions in unclear environments.











Chapel of the Lambent Water

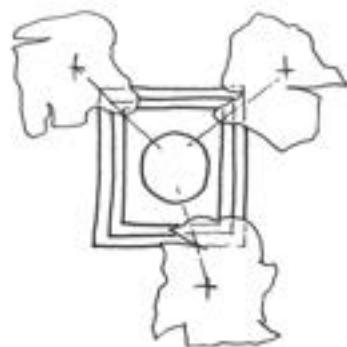
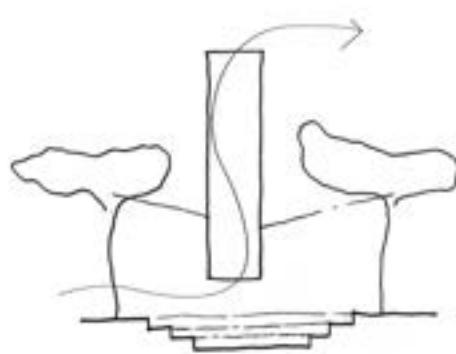
Gautam Palav

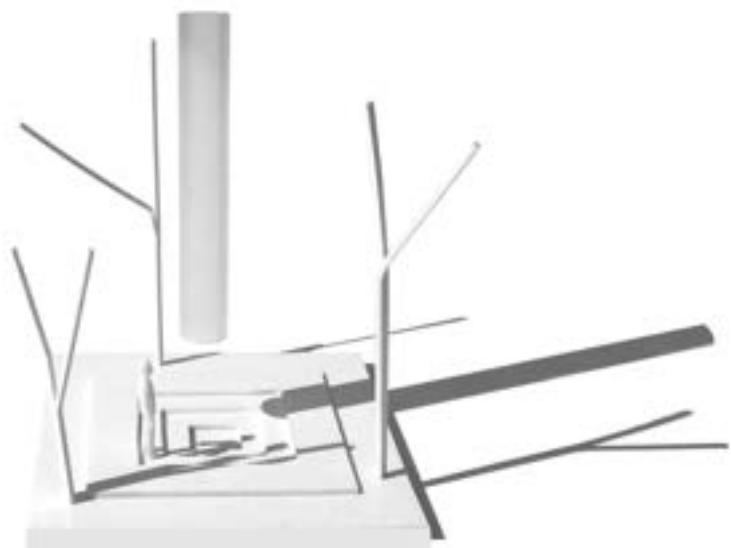
Mawsynram, Meghalaya, India - Wettest conditions

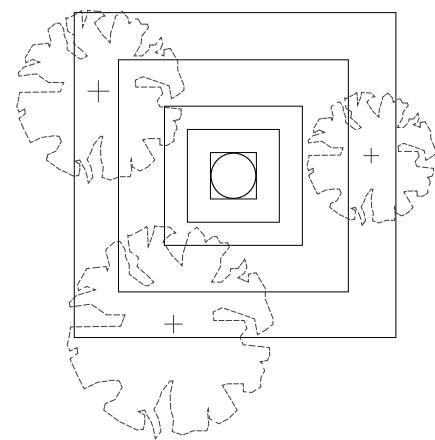
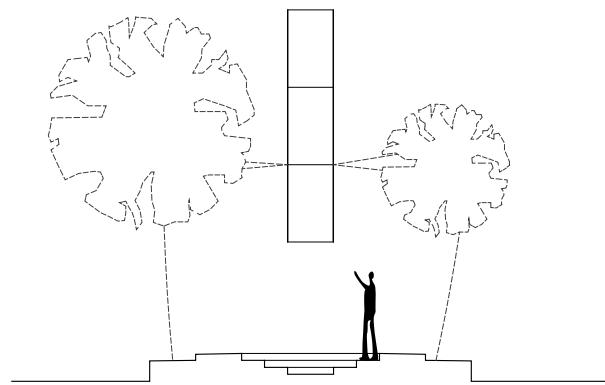
In the current geopolitical landscape, with a growing influx of economics, politics and social struggles the chaotic cities lack a sense of mutual trust. Whereas, it is the dire need of the time to unite together and find a common enemy.

India, majorly a Hindu country is divided vastly by subcultures. There are twenty-six spoken languages and thousands of spoken dialect. People follow various deities and gods, and there is a clear divide between them.

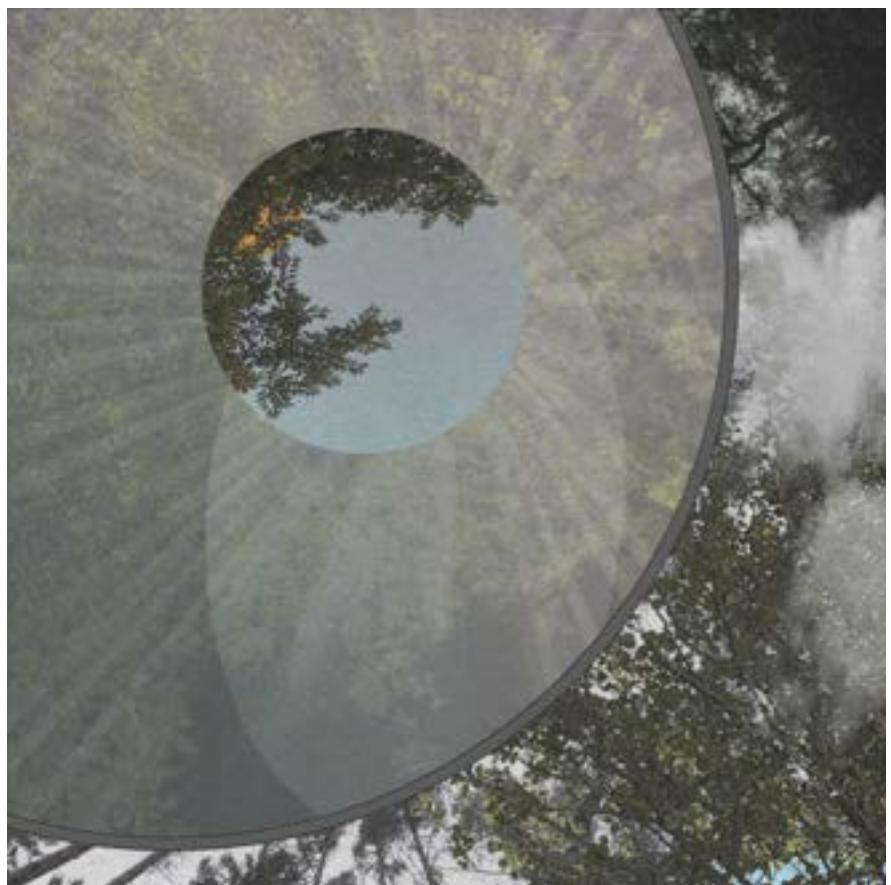
This calls for a radical approach towards religion, which unites people rather than pushing them away. Elements like water and light represent life and hope. If these elements tied together by architecture should give rise to a new form of religion and a place to contemplate the real issues facing the human existence.







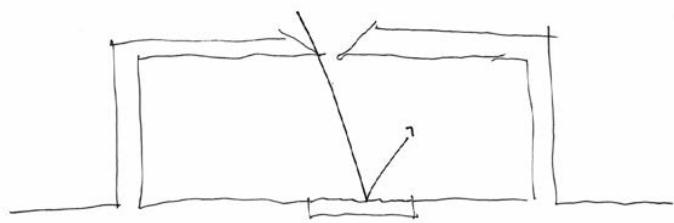




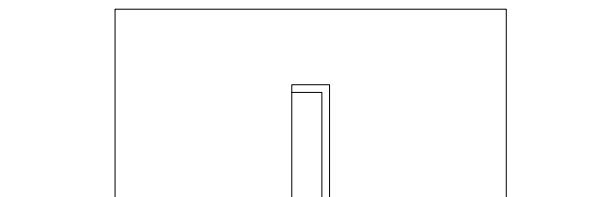
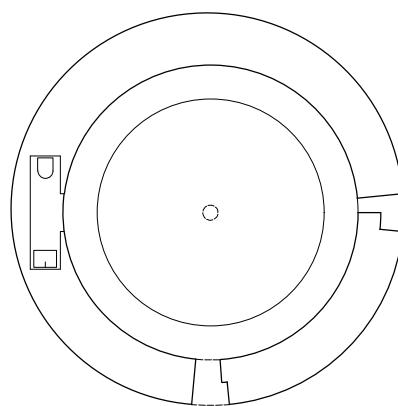
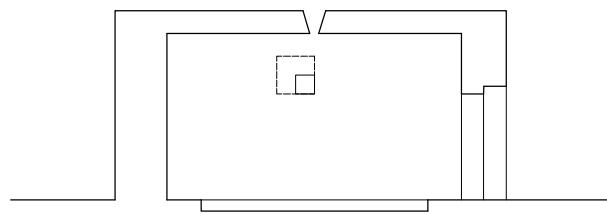
Double Endless View
Giovana de Souza Matsuda

Patagonia, Argentina - Windiest conditions

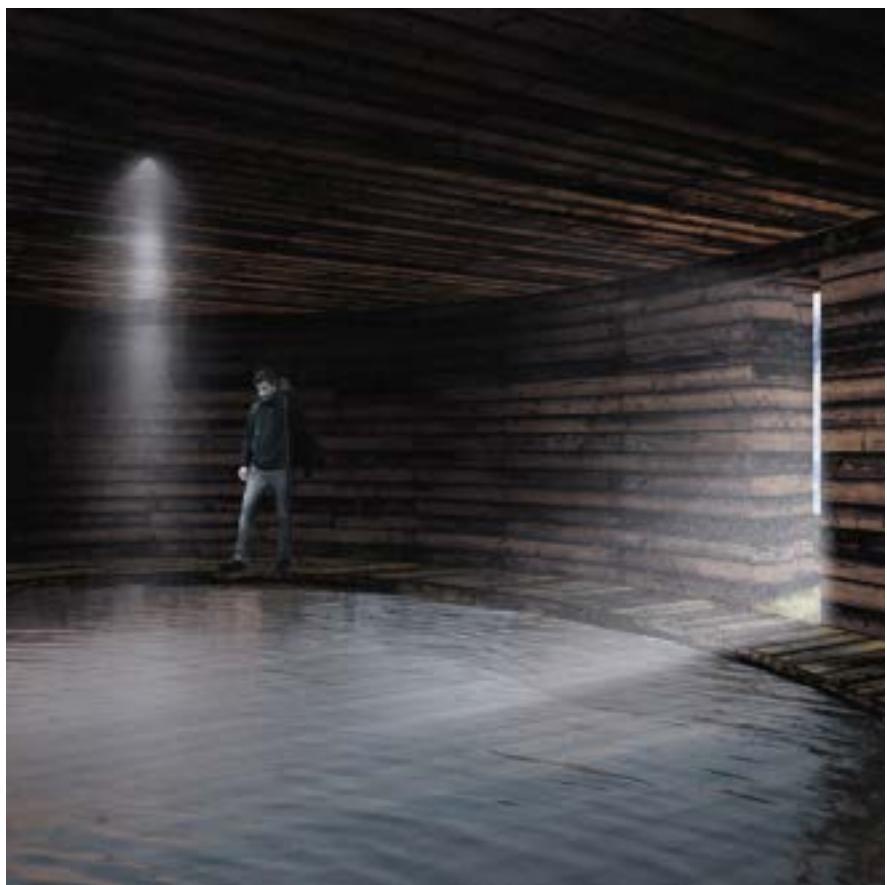
The cold rainbow on earth carries the singular name of Tierra del Fuego. Perhaps the Fuego is just a metaphor for the variety of color composition in its different landscapes, or maybe the Fuego is analogous to the ever-present Southwest wind. The pavilion intended for reflection of the external image would be airtight if it were not for its three openings at different scales: The door, for the men. The window, for the wind, and the opening for the view. This, which in the blink of an eye is stamped on the thin mirror of water on the floor of the pavilion. Like a dark camera , the building reveals both sky and wind as it moves through the water.











Buried Wind

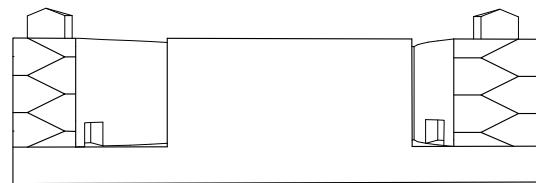
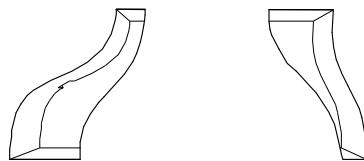
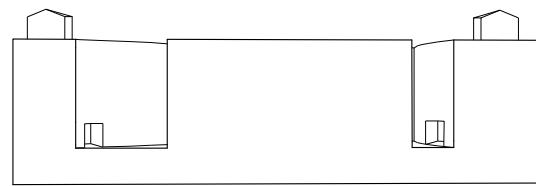
Ju Eun Kim

Four Canyon, Oklahoma, US - Windiest conditions

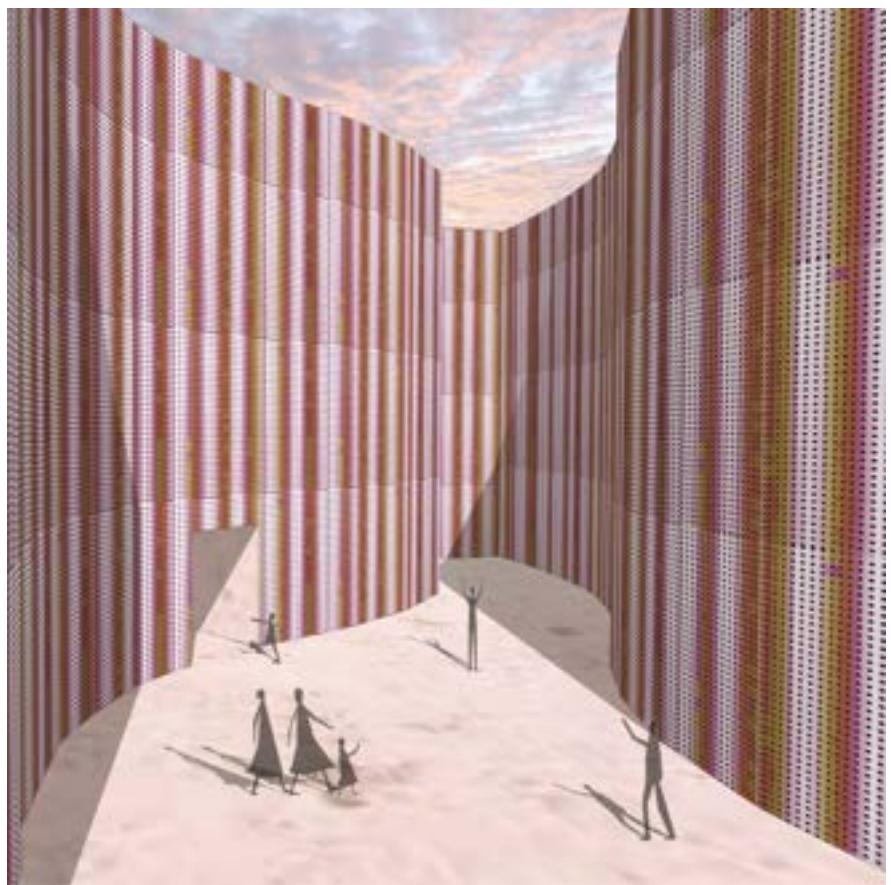
From the outside, only traditional architecture, Sod House, is visible, and they serve as public cores that can be used by all. Through the core, you can experience a sort of walking through a canyon, and the walls of the canyon are made up of tiny aluminum panels, and they move as they hit the wind. It is a public space where everyone can gather and communicate with each other and acts like a square. Residential space is constructed around a common space.









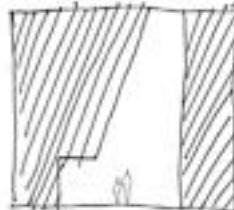
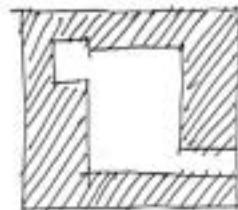
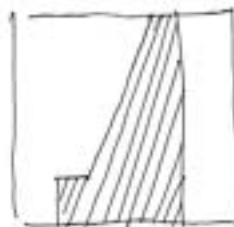
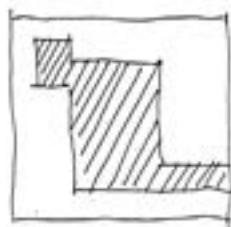


Aketh

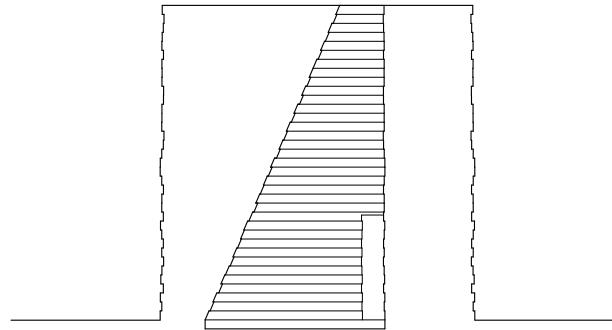
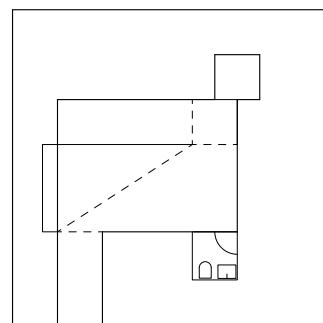
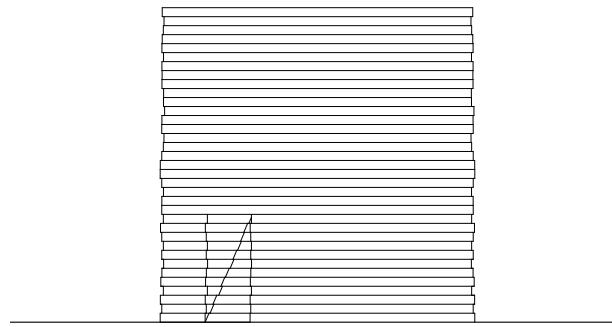
Manuel Benedettini

Nubian Desert, Sudan - Driest conditions

Aketh comes from *ake* [Egyptian] which means light, mountain of light and horizon. This word explains which are the themes of the sanctuary in the middle of The Nubian desert, one of the driest place on Earth. The contrasts between mass and void generate the light which guide the visitor into the space. To the Egyptians, the sun represented light, warmth, and growth. This made the sun deity very important, as the sun was seen as the ruler of all that he created. Since here is where the Tropic of Cancer passes through, the study of the sun is crucial. On the 21st of June the conic shape lets the light enter in generating a perfect shadow that hit the water.











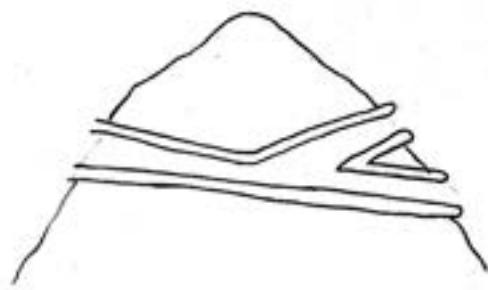
Title

Milena Delegkou

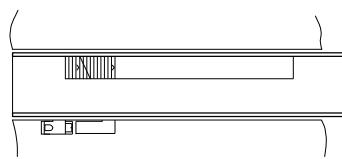
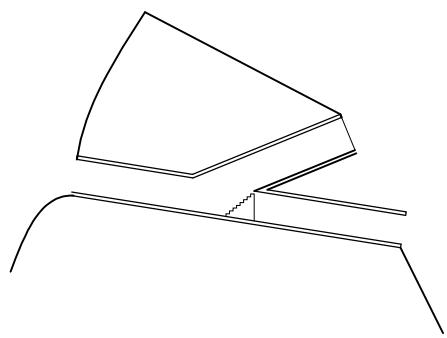
Telescope Peak, Death Valley, California, US - Hottest conditions

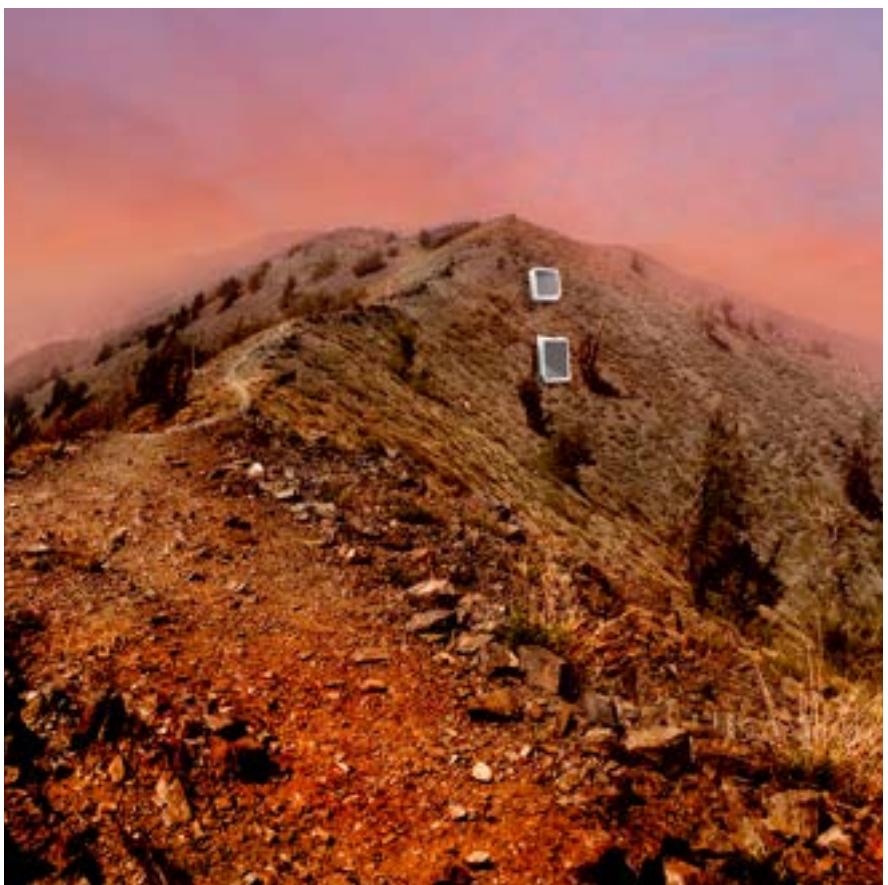
One of the hottest places on earth is the Death valley in Eastern California. Here is located the Telescope Peak, which is the highest point on the whole Valley. The trail that passes through the Valley and reach the Telescope Peak, gives to the tourists the opportunity to admire the breathtaking view. This project aims to take advantage of the beautiful view and offer a great observation of the territory and the landscape. Digged inside the ground, this observatory of two different tunnels, wants to give the feeling of a telescope observation.

I wanted to create a project that will protect the visitors from the extreme hot temperature. Furthermore I wanted to take advantage of the view. The name of the peak also inspired me to create two different tunnels-passages that provide the shape of a telescope giving to the view another definition. The materialisation of this project has also a great significance, thick concrete walls are necessary for the support of the tunnel and for the thermal isolation.









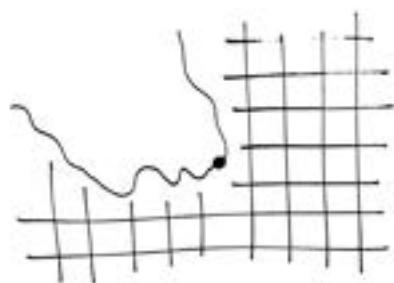


Wind Shaped Chapel

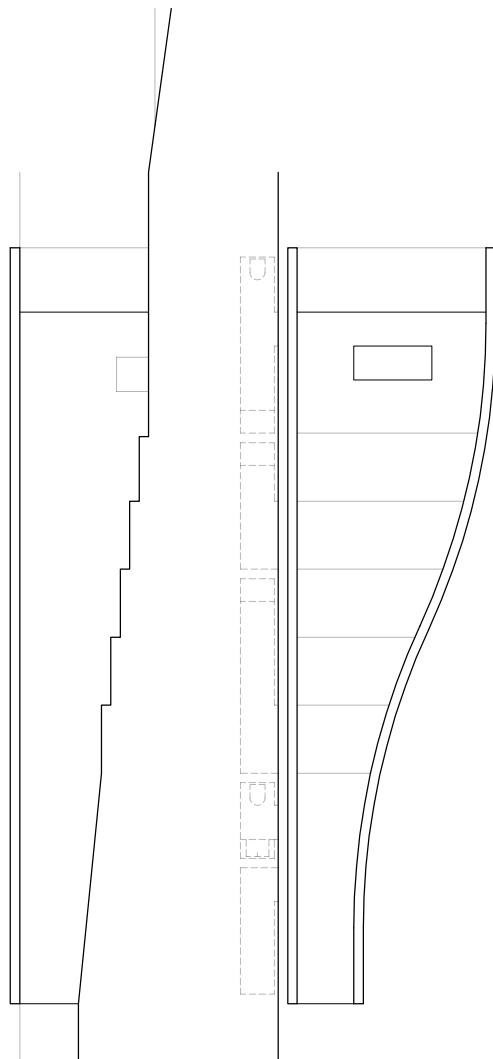
Sergio Carballo Pérez

Oklahoma City, Oklahoma, US - Windiest conditions

This intervention is located on the limit between Oklahoma City's main lake and the urban fabric. It uses an adverse climatic condition as a generating element to transform the existing edge into a transition between extreme and comfortable climatic sensations. The wind flows give shape to a wall that acts as a filter between two worlds: the interior (chapel) and the exterior (public space). The S shape regulates the wind speed to a comfortable level. The surrounding open space leads the users towards the crack of the wall to enter the chapel, an item that enhances the existing charity awareness of this city.









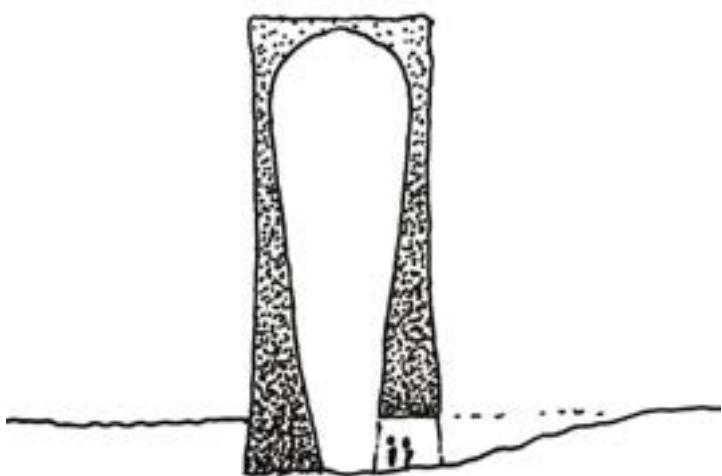


Chapel of the Arctic Summer

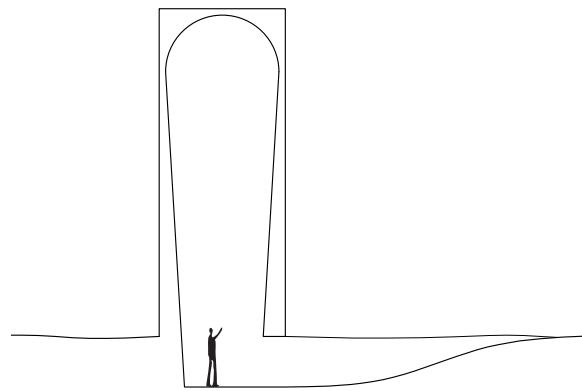
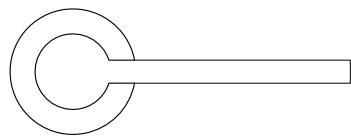
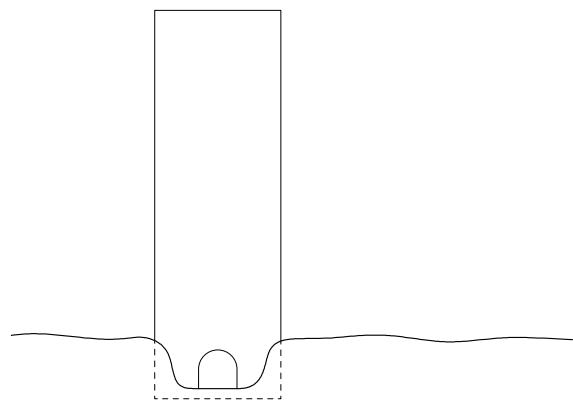
Spencer Bates

Eismitte, Greenland - Coldest conditions

The Chapel of the Arctic Summer stands in the landscape as a quiet, reflective place to contemplate the ephemeral event of the never setting sun during the arctic summer. Constructed in the method of traditional igloo, the chapel is built solely from a gradient of ancient blue ice to younger white. It starts at the base with massive blocks that become progressively thinner as the walls ascend toward the sky. From the inside this allows virtually no light through at the base but allows the summer sun to illuminate the top through the increasingly thinning ice. From the outside the gradient colors of the tower appear as the inverse of the blue sky meeting the white horizon.











Oasis

Taehyun Kim

Atacama Desert, Chile - Driest conditions

An oasis takes place so visitors can resist to the extreme environment at one of the driest places on earth.

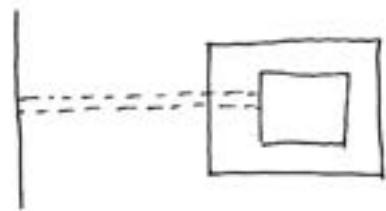
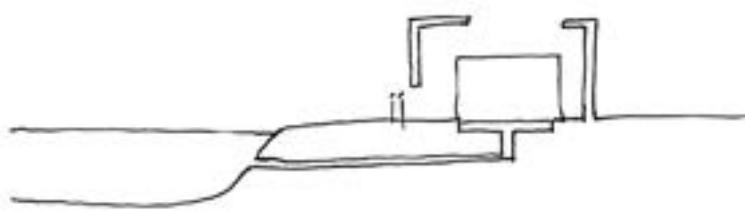
The water comes from the Pacific ocean 130 km to the west.

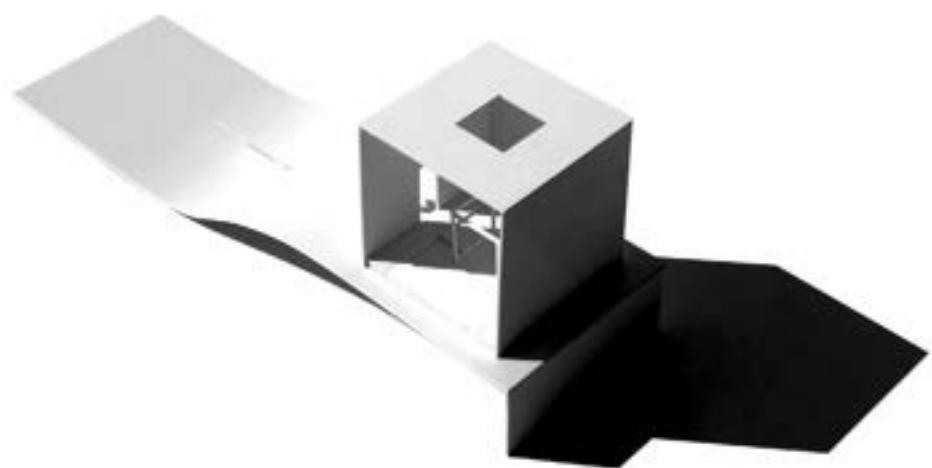
The salty water is purified on the course so that it can be used to drink, wash hands, take a shower and to give life to the vegetation.

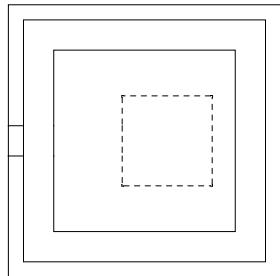
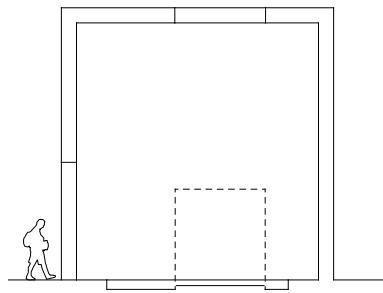
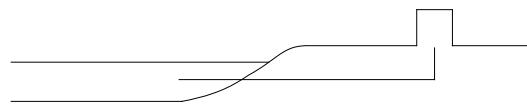
The Oasis has a very simple geometry of two introspected cubes.

The outside cube has thick walls and a bright and solid texture. The inside one is made of glass like a green house.

Sunlight is taken from a void at the roof. Water comes from under the ground.











Landscape Shelter

Taíse Ângela Arioli

Telescope Peak, Death Valley, California, US - Hottest conditions

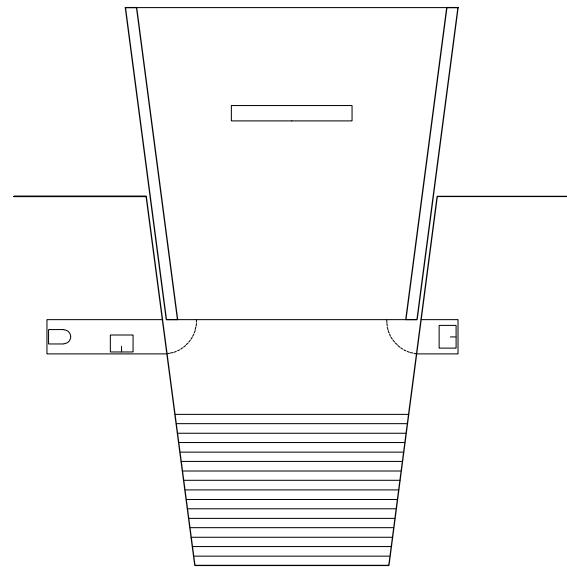
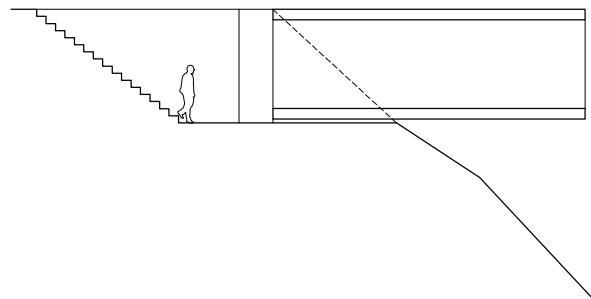
Death valley is an invitation to meet a land of extremes and different views. The hottest place on earth is also a hot spot for tourists to enjoy the desert landscape.

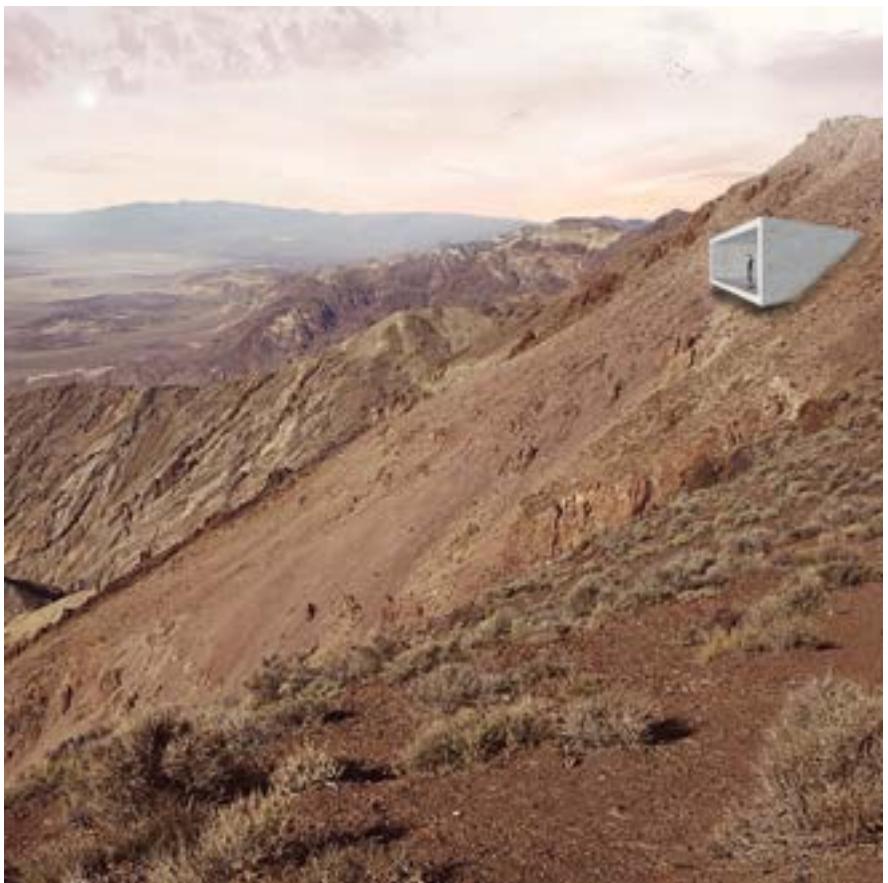
The proposal is to create a place that stimulate different points of view and sensations. A space that seeks to enhance and amplify the surrounding landscapes. A pleasant and relaxing space that is protected from the extreme heat.

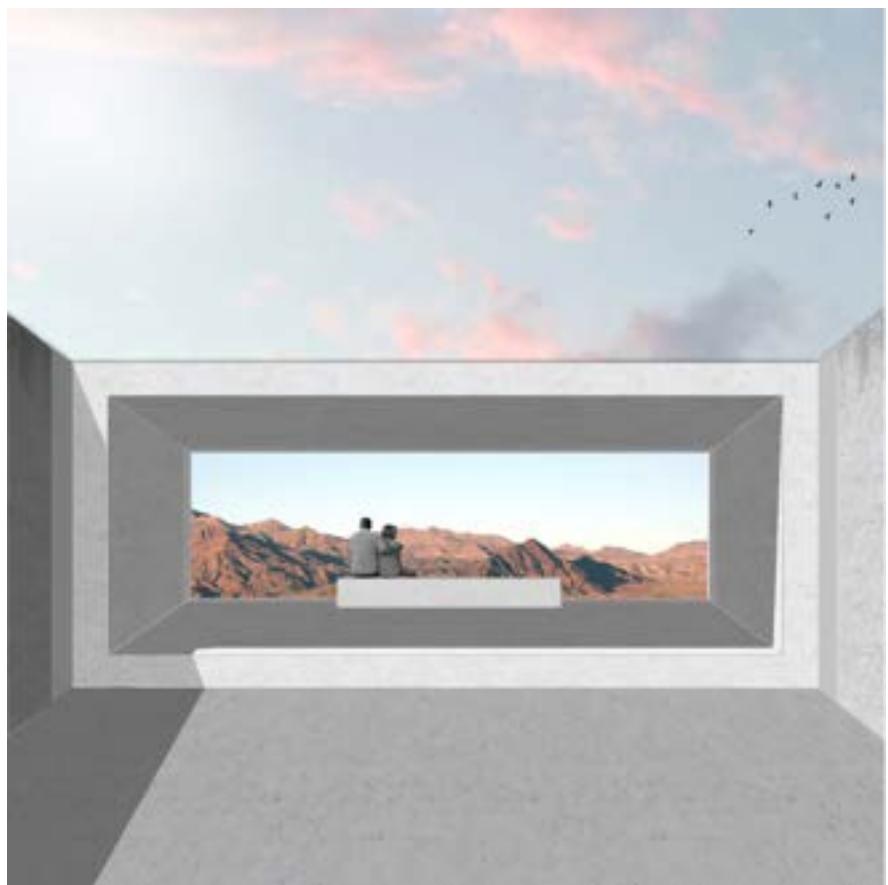
The formal proposal it is to adapt the building to the land creating two different levels. The stairs lead to the ground floor, where the framed landscaped is the protagonist.









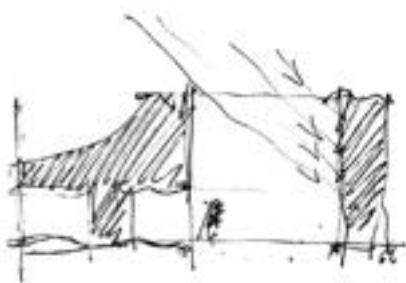


Chapel of a Quiet Prayer

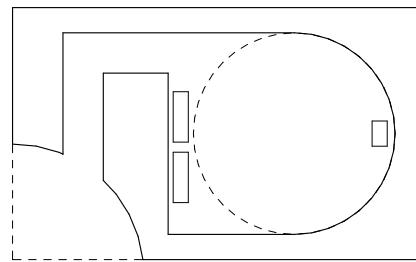
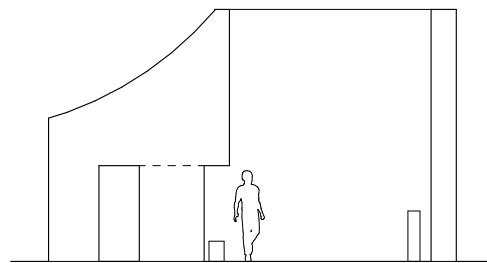
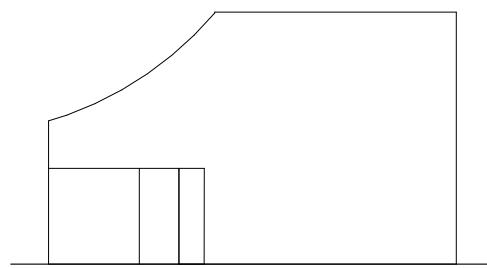
Tereza Smolová

Patagonia, Argentina - Windiest conditions

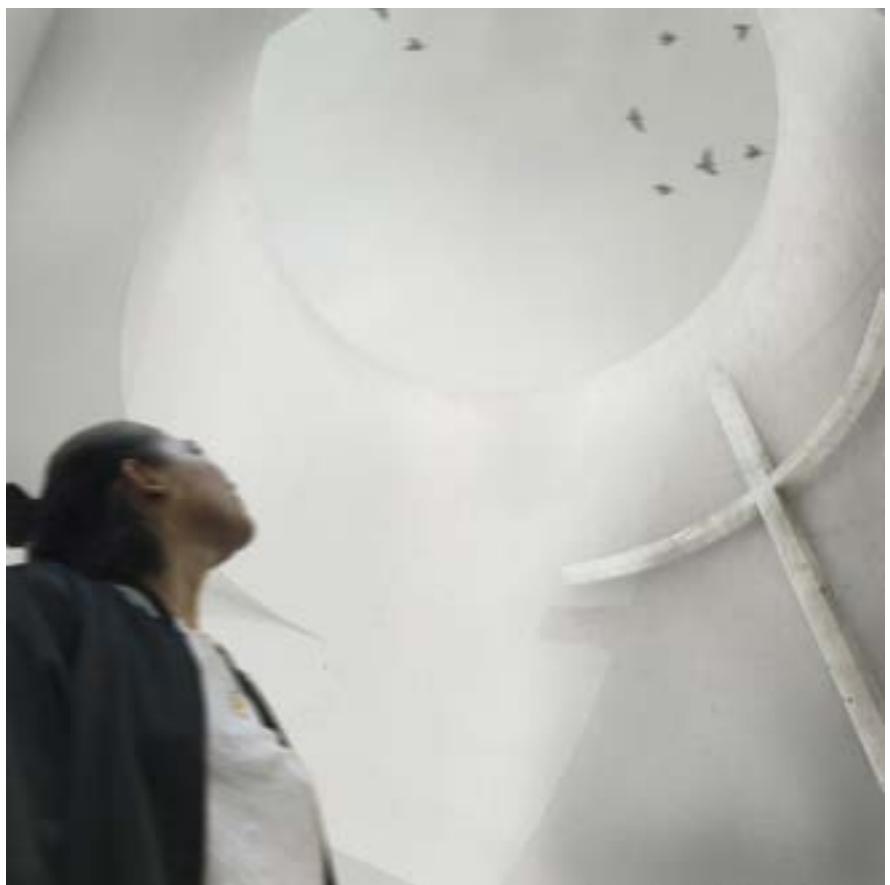
Because of the noise of cruising wind, while you cross open plains of Patagonia, it is very hard to concentrate on things happening in your mind. You can hardly coordinate your own moves. A chapel is situated in an open plain, surrounded by nothing but trees bended by the wind. Removing the mass from a solid volume in a pragmatic way, I create a shape that makes a dialog with a wind. I don't want to force him to stop being a wind. I want to make compromise and create different environment in a close proximity. Entering the chapel a visitor has an expectation, the inner space is based on contrasts, full of wander and mystery. The main void opens to the sky. Inside the void, it is very calm, but wet and it can also rain inside.. But when in Patagonia goes the rain straight down?











Between Two Walls

Victor Álvares Alberto Alencar Machado

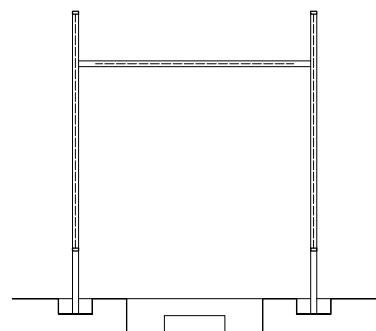
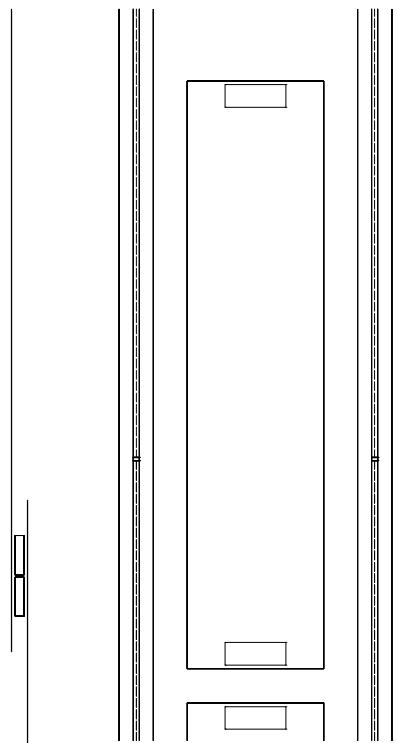
Atacama Desert, Chile - Driest conditions

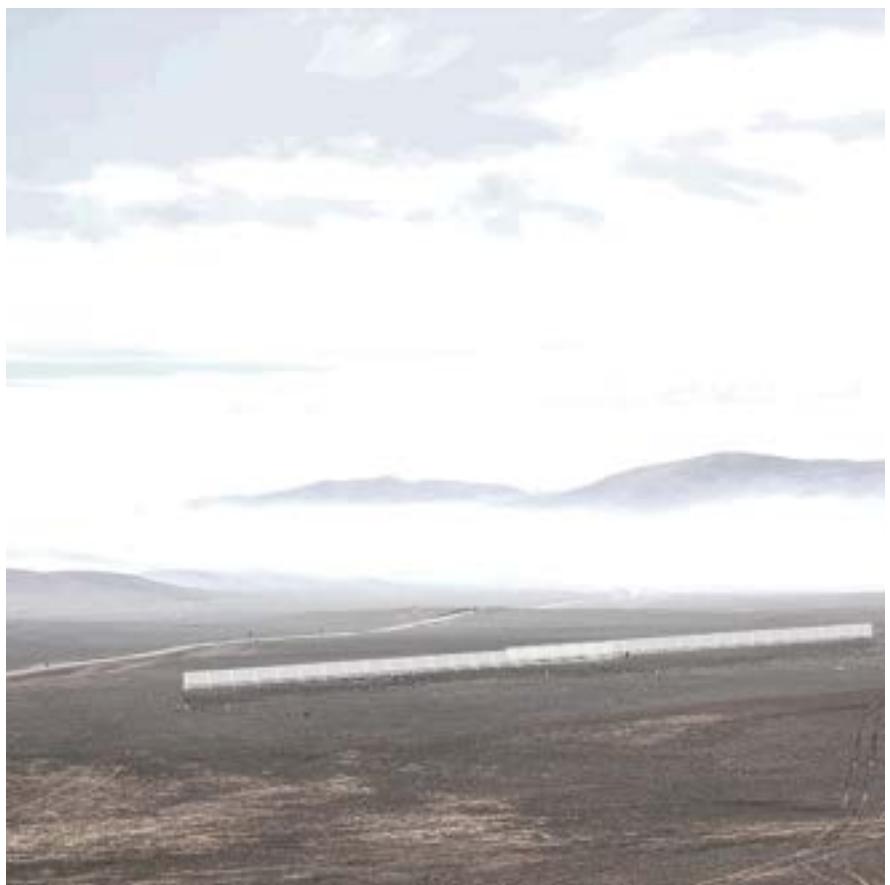
The Atacama desert is one of the most driest places on earth. Rains almost never falls there, but along the Pacific ocean, cloud banks are abundant. The locals call this phenomenon 'Camanchaca'.

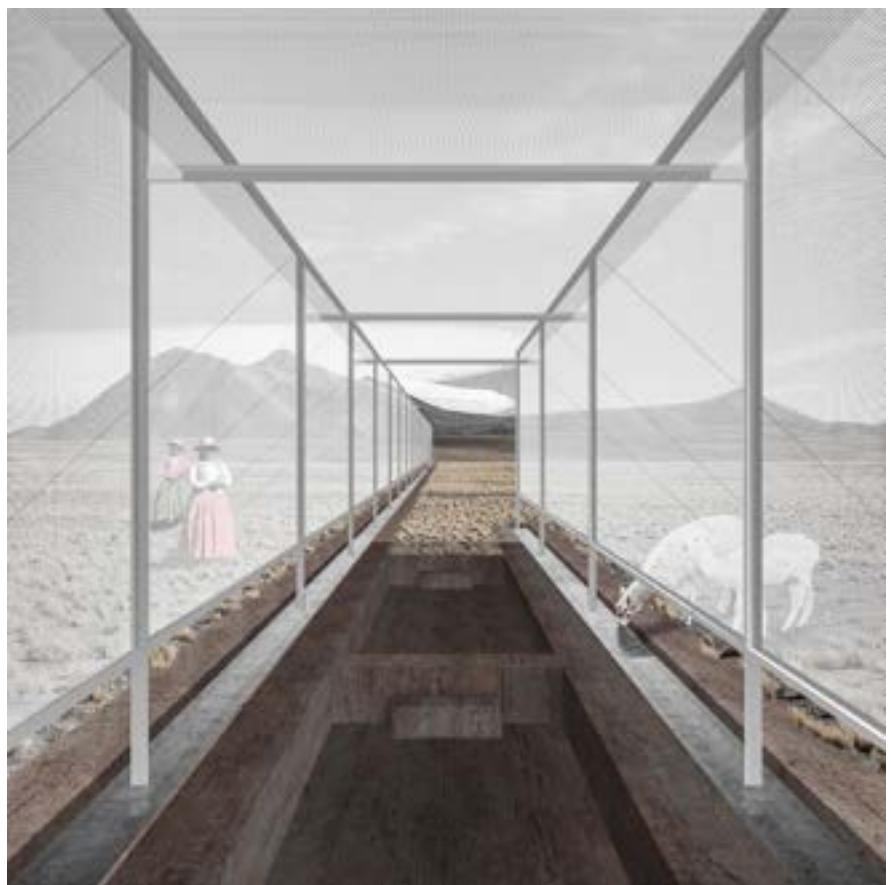
The project proposes to harvest water from the fog, and use it to grow an oasis. It is composed by two parallel planes made from a shade cloth material. The point where the two planes overlap, generates a space in between made for visitors to rest by the shadow, drink water and contemplate the desert.











FRAN SILVESTRE

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ANA ABRIL
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ATTILIO RANIERI
FRAN SILVESTRE
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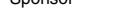
Organization & Production



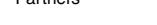
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