Sculpting the void
The House of wine in Oia

P5 presentation
Explore Lab 15

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04.07.2013
The islands with all their minium and lampblack
the islands with the vertebra of some Zeus
the islands with their boat yards so deserted
the islands with their drinkable blue volcanoes.

Odysseus Elytis ‘The Axion Esti’
Santorini is volcanic, the remnants of a prehistoric eruption which reduced the originally cone-shaped island to its present form. Towards the crater there are rock cliffs up to 400 meters high whereas on the outer side low hills are formed. Even though it has been periodically devastated by earthquakes, volcanic eruptions and pirates it has never been abandoned.
The island of Santorini site

The landscape of the site is the most dominant element.

A vernacular architecture was developed, and spread over the centuries, showing an uninterrupted procedure.

The vernacular architecture is sculpturing the mass and void of the existing landscape.
relationships of great importance:
nature - architecture
landscape - buildings
human - human
human - nature

co-existence

“Architecture ought to be art, poetry and music”

Bernard Rudofsky
Vernacular Architecture of Santorini

Organic urban & building forms

Design parameters:
Climate, earthquakes, materials, and topography

Basic categories:
1. cliff-face buildings.
2. half-dug on a slope (yposkafa).
3. free standing houses.

The architecture of Santorini concentrates all the fundamental features of a “human” architecture as it arises emotive and therapeutic emotions through spatial plasticity.
Vernacular Architecture of Santorini

SUN
EARTH
WIND
WATER
In the beginning of 20th century traditional architecture of Santorini started altering.

"Consumption" of traditional architecture

The two main factors that contributed to this alteration were the following two:

- earthquake of 1956
- tourism industry | overdevelopment

Formalistic imitation of the past
The choice of designing a house of wine creates an all-embracing relationship to the local source of wealth, wine, that has played a huge role for the island throughout the centuries.
Design

House of Wine

Intervention at the old quarries

punctual interventions

House of Wine:
- vineyards
- a welcoming area for the guests of the winery
- all the spaces needed for the winery’s functioning
- cellars
- open public space.
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- vineyards
- a welcoming area for the guests of the winery
- all the spaces needed for the winery's functioning
- cellars
- open public space.
site of intervention
site of intervention

VIEWS
strong natural boundary of the site with the town
connection with the town

easy accessibility

functional wall | reconnection with view of the cliffs
the boundary | wall
the boundary | wall
developed elevation
processional route
experience the landscape
Knitting of different functions, atmospheres and spaces.

The mass and the void become the medium to express this knitting, sometimes by adding material and sometimes by extracting.
processional route
experience the landscape
Cultural landscape

product of human + nature

The landscape between the culture and the nature

The landscape is seen as a monument itself that needs to be preserved
Creation of two worlds

2 worlds
natural | artificial
existing | intervention
Creation of two worlds

2 worlds
natural | artificial
existing | intervention

The existing topography

the existing landscape

The excavation

horizon
The roof follows the topography of the existing ground.

The roof becomes the footprint, the trace of the ground, a reminder of it. The line of the ground becomes the line of the roof
The darkness and the light
sculpting the void
sculpting the void
cellars

winery

public courtyard

wine tasting rooms
| the mass | the void |
winy

cellars

wine tasting rooms
fissure

tunnel to terrace
terrace

the mass

the void
the void | space
tunnel to terrace
terrace
cellars

the void | space
fissure
wine tasting rooms
The Lalibela Churches
employee’s space | laboratory
bottling room | administration
screening room
crushing | pressing room
storage space
THE WINERY
creation of masses inside the void
THE WINERY
creation of masses inside the void
process of extracting | adding
πώνωμεν· τί τὰ λύχν’ ὄμμενομεν; δάκτυλος ἀμέρα·
καδ’ ἀερρε κυλίχναις μεγάλαις [αιτα]ποικίλαισ·
οἶνον γὰρ Σεμέλας καὶ Δίος υἶος λαθικάδεον
ἀνθρώποισιν ἔδωκ’. ἔγχεε κέρναις ἕνα καὶ δύο
πλήαις κακ’ κεφάλας, ἀδ’ ἀτέρα τὰν ἀτέραν κύλιξ
ὠθήτω...

Let’s drink! Why are we waiting for the lamps? Only an inch of daylight left.
Lift down the large cups, my friends, the painted ones:
for wine was given to men by the son of Semele and Zeus
to help them forget their troubles. Mix one part of water to two of wine,
pour it in up to the brim, and let one cup push the other along.
Let's drink! Why are we waiting for the lamps? Only an inch of daylight left. Lift down the large cups, my friends, the painted ones: for wine was given to men by the son of Semele and Zeus to help them forget their troubles. Mix one part of water to two of wine, pour it in up to the brim, and let one cup push the other along.
grapes | wine
employees
visitor

routes through space

wine | employee | visitor
routes through space

product | employee | visitor
wine making
THE PROCESS

GATHERING  
SORTING  
CRUSHING  
PRESSING  
FERMENTATION  
BOTTLING  
AGING
sorting belt
routes through space

product | employee | visitor
catwalks for checking
rest room
routes through space

product | employee | visitor
entrance
wine tasting rooms
wine tasting rooms
the quarry
the revealing of spaces
walls that live and breathe
The walls are not separating walls, but connecting elements. Elements that host within them many functions.

The walls have life within them.
The walls are not separating walls, but connecting elements. Elements that host within them many functions.

The walls have life within them.
structure | roof
wooden revolving element

grid that prevents unwanted objects to enter the space between the two corten plates

columns | trusses of the roof

structure | roof
structure grid of the roof
Construction process phases
Construction process phases
Construction process phases

excavation | creation of a cavity within the slope
Construction process phases
Construction process phases

creation of the concrete floor, with steel bars of reinforcement
Construction process phases

creation of concrete blocks
Construction process phases

placement of steel columns, temporarily standing on the screws
Construction process phases

creation of concrete bases for columns to step on | fixed screws
Construction process phases

placement of in-between floor, attached to the concrete blocks and steel columns
Construction process phases

placement of the roof
steel grating floor _ 5 cm
screws
steel beam 20 cm
concrete _ 10 cm
moisture barriers _ 1 cm
ground
cement _ 40 cm
concrete floor _ 25 cm
floor heating | cooling
insulation _ 6 cm
concrete _ 10 cm
moisture barriers _ 1 cm
ground

steel column _ t= 2 cm, 80 cm
steel plate _ t= 2 cm
concrete base
screws

water collection system
footing

door

DETAIL 2
concrete floor _ 25 cm
Floor heating | cooling
insulation _ 6 cm
concrete _ 10 cm
moisture barriers _ 1 cm
ground

sliding element
aluminium window frame
double glazing

gutter

cement floor expansion joint
Climate
sun path
roof | climate

SUMMER

WINTER
SUMMER

WINTER
Cooling | Heating system

**Centralized sea water cooling system**

- **Shallow warm water effluent**
- **Deep cold water intake**
- **Cooling station**
- **Closed loop chilled water distribution**

**Centralized heating system**

- **Closed loop warmed up water distribution**

**Seawater temperature**

<table>
<thead>
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<th>Month</th>
<th>Temperature</th>
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<tr>
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<tr>
<td>March</td>
<td>15.1</td>
</tr>
<tr>
<td>April</td>
<td>15.9</td>
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<tr>
<td>May</td>
<td>18.1</td>
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<tr>
<td>June</td>
<td>21.3</td>
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<tr>
<td>July</td>
<td>23.8</td>
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<td>August</td>
<td>24.1</td>
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<tr>
<td>September</td>
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<td>October</td>
<td>20.5</td>
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<tr>
<td>November</td>
<td>18.8</td>
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<tr>
<td>December</td>
<td>17.0</td>
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**Air temperature**

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<td>24</td>
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<td>October</td>
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<td>November</td>
<td>17</td>
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<tr>
<td>December</td>
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Materiality
<table>
<thead>
<tr>
<th>Material</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1. black andesite</td>
<td>An extremely strong stone hard to be processed, is used in bearing walls and fences</td>
</tr>
<tr>
<td>2. red haematite</td>
<td>A material mostly used in lintels, wall facades and the filling of walls</td>
</tr>
<tr>
<td>3. pumice stone</td>
<td>A material easily processed, is used mainly for the construction of domes</td>
</tr>
<tr>
<td>4. aspa terra theraic</td>
<td>A strong mortar that is easily mined, with excellent hydraulic properties. The hard, cohesive soil is consisted of layered volcanic materials – ash, lava, pumice, and scoria and can be used for the construction of dug buildings.</td>
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earth

MATERIALITY
Both inside and outside floors are made of concrete, with the technique of power concrete.
Floors

Materiality

The inside floor is cutten after before it becomes so that expansions joints will be created.

The outside floor is not cutten and there are no expansions joints. The concrete floor starts cracking and a pattern that keeps changing is created. "Nature" takes over.
The trace of age on the materials
The trace of age