

## Shadow Theater

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# Shadow Theater

A thesis presented in partial fulfillment of the requirements for the degree Master of Architecture in the Department of Architecture of the Rhode Island School of Design, Providence, Rhode Island

by

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2018

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Everything is moving.

Sunrise and sunset, flowing light through wall holes,  
pours on another wall,  
where there is flowing shadows of wall holes on another wall;

Light projects on the screen,  
moving spaces bring constant flows of people,  
breaking quiet which belongs to light;

Wind picks up leaves, blows off petals,  
They dance freely in the wind;

The ocean breeze beats the waves and the waves beat the rocks,  
with Wind Chime by the Sea,  
playing a section of chords;

Raindrops into the water, splashing in all directions,  
di-di-dah-dah,  
shows glistening light of waves.

In this project, I try to explore the relationship between light and shadow, light and image. From exploring the formula of lens refraction, to observe unique path of object moves created by nature. I am always exploring and trying to use architecture in response to light and to sculpture light, and attract people to come to this space feeling light, interact with light. In this space, people, architecture, light and shadows are as the elements of mutual equality, influence in interaction, waving the space tighter.

Project is located in Pemaquid Point, Maine State. In the day time light are mainly from sun. Part of the sunlight is reflected from water and goes through lens embedded in the lower part of wall, making the image projected in the interwall clearly. The other part of sun shines through wall holes directly, with changing sun path of sunrise and sunset, drawing the ever-changing shadow on the wall. After twilight, lights are mainly from artificial light, in the space, flowing flows shadow and light, looking for another magical space.

The blind spot which I studied in the beginning of this project is referred to a space which has no response to the light. When light cannot find a screen which can response to, this space becomes a seemingly bottomless black hole.

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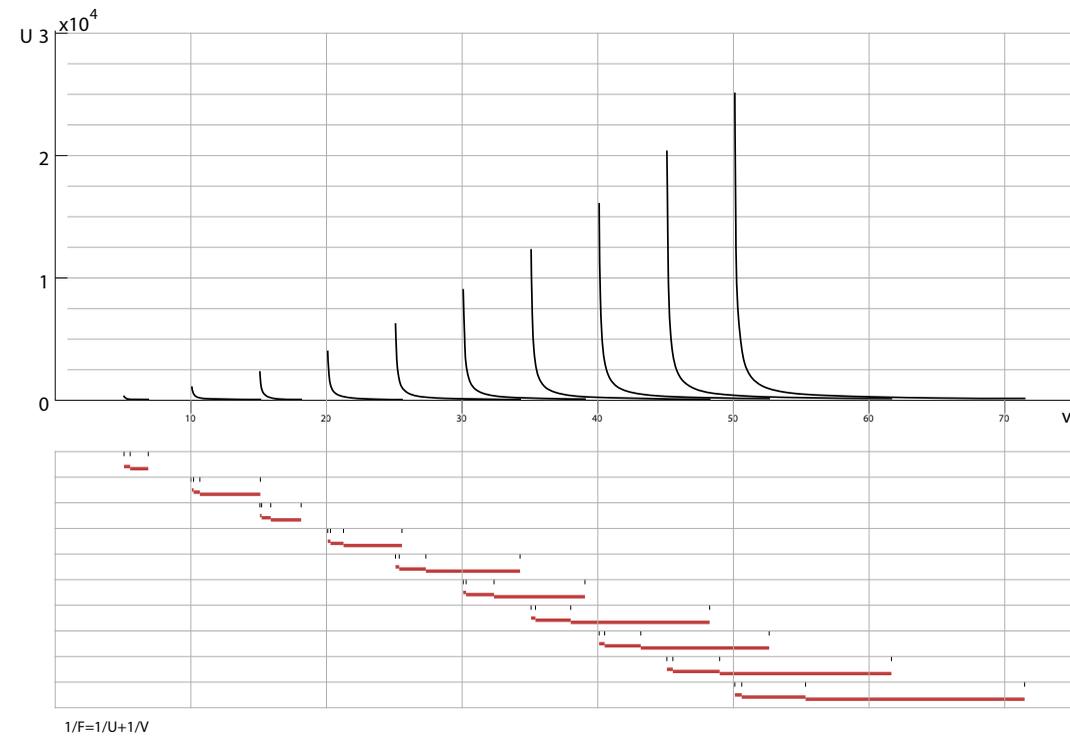
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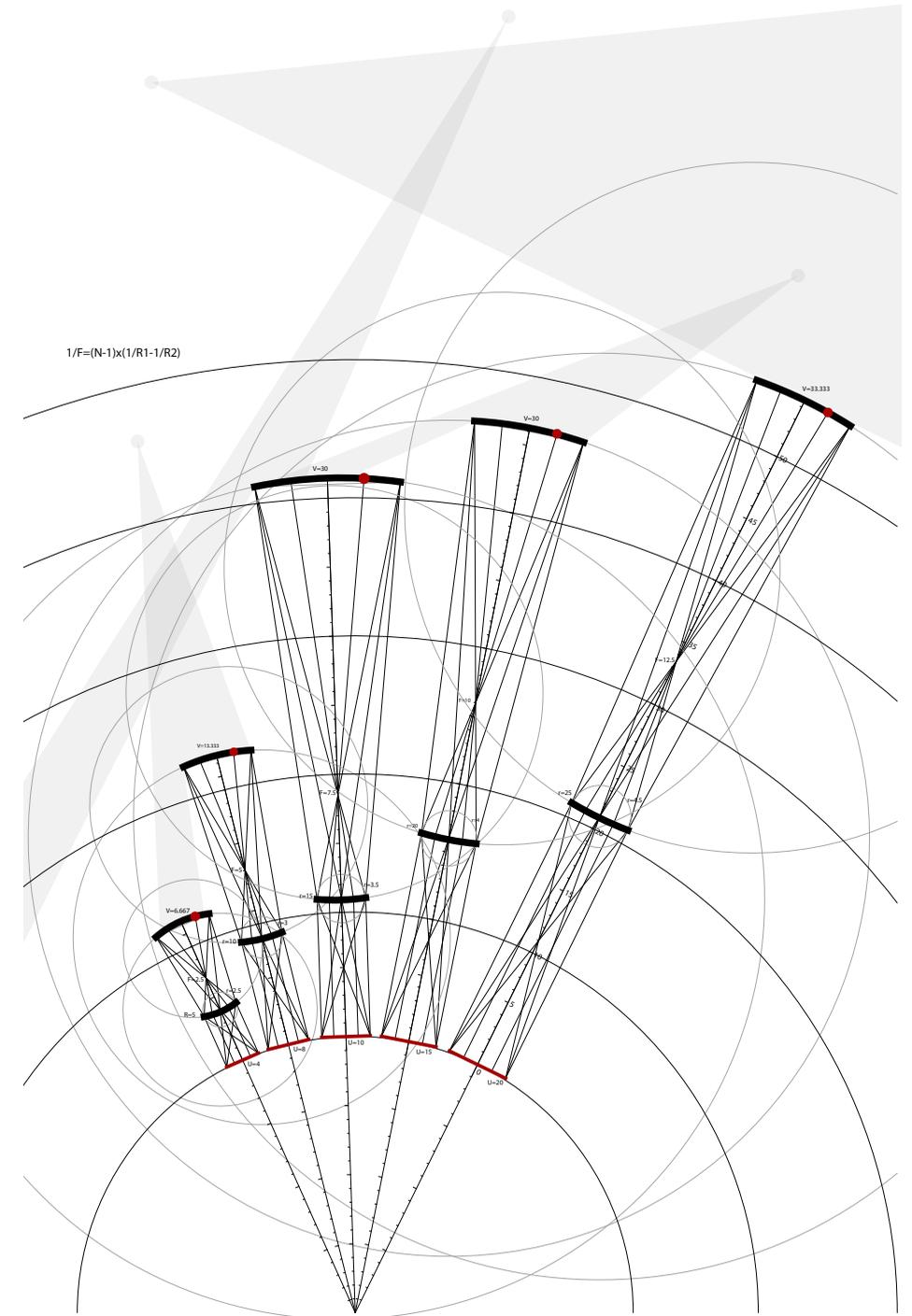
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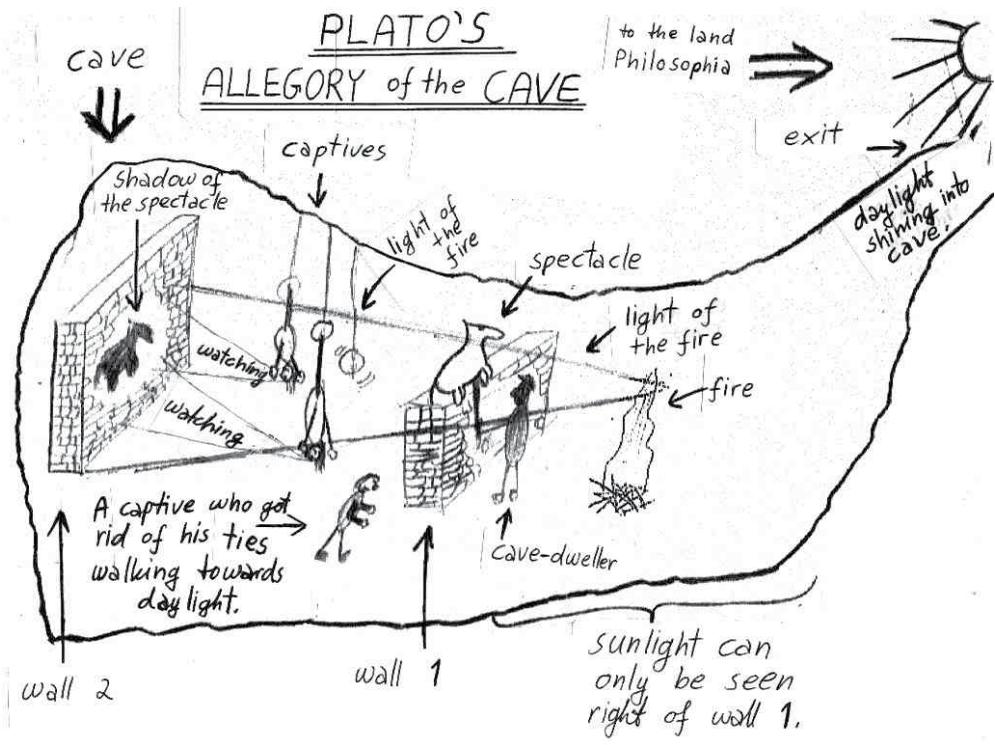
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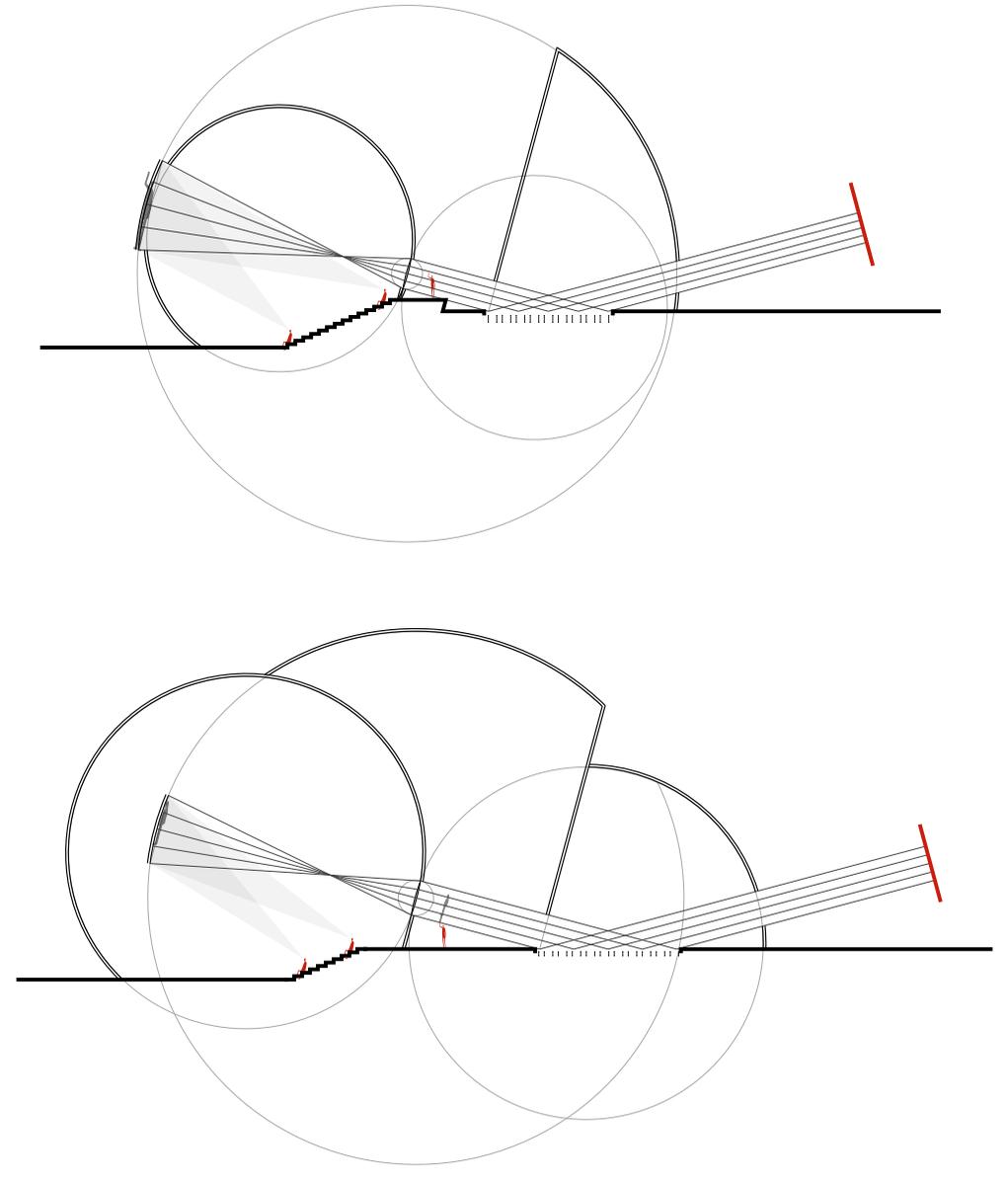
During the research of image formation by lens, I found out that in a certain range, the change of  $u$  has a big impact on the change of  $V$  and in a certain range, the change of  $V$  has a big impact on the change. This discovery enlightened me and inspired me how to design the space of my building.





[http://blogs.usyd.edu.au/theoryandpractice/2007/02/chapter\\_ten\\_aristocles\\_plato.html](http://blogs.usyd.edu.au/theoryandpractice/2007/02/chapter_ten_aristocles_plato.html)

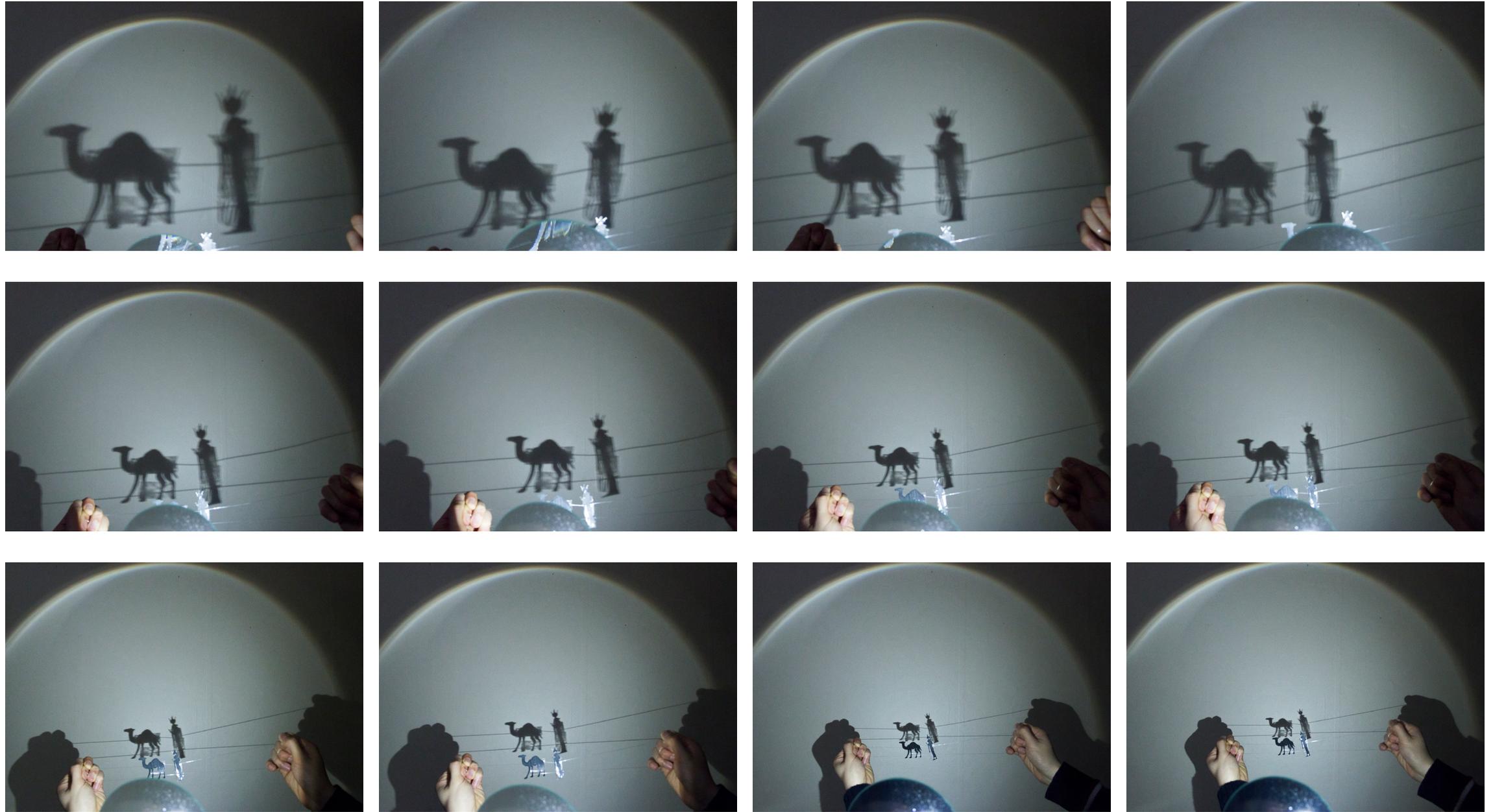
The careful study of Polato's Cave helped me determine the shape of the space unit in my building and helped me think beyond the ideology of architecture.



Visible realm		Intellectual realm	
Opinion		Knowledge	
Eikasia, imagination	Pistis, belief	Dianoia, thought	Noesis, understanding

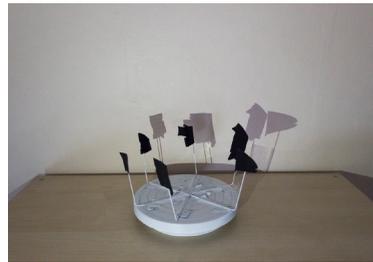
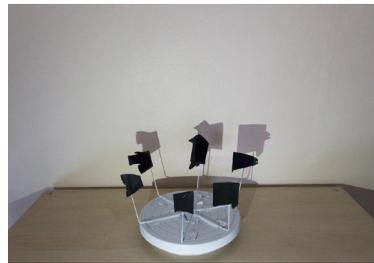
Three Approaches of Shadow Research

1. Lens



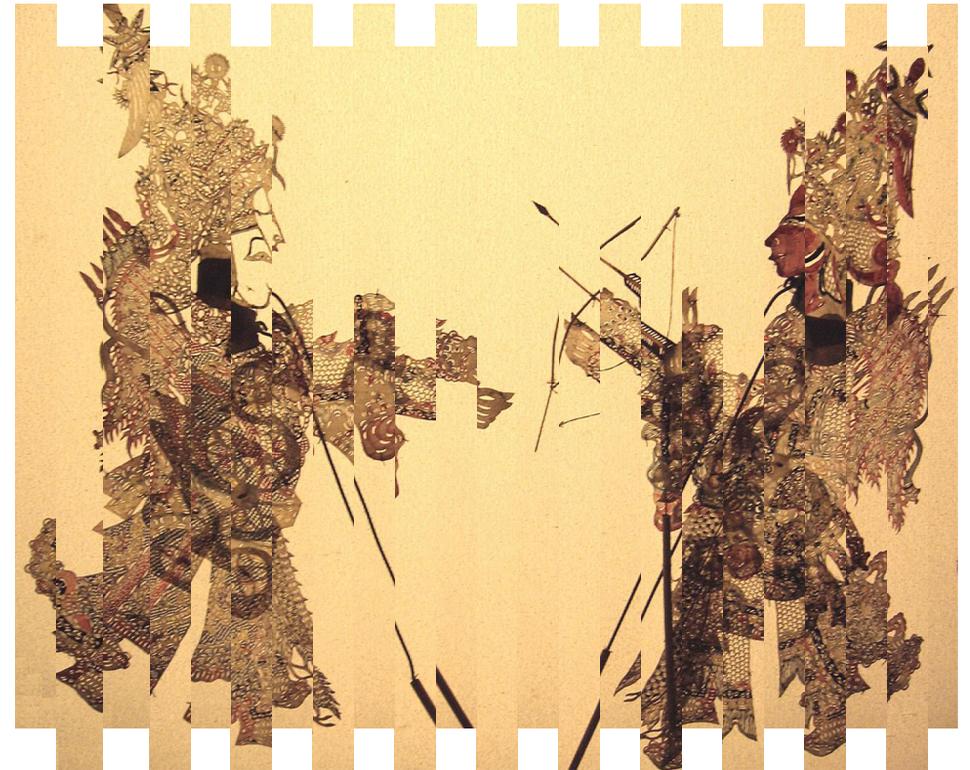
Three Approaches of Shadow Research

2. Fragment Rotation

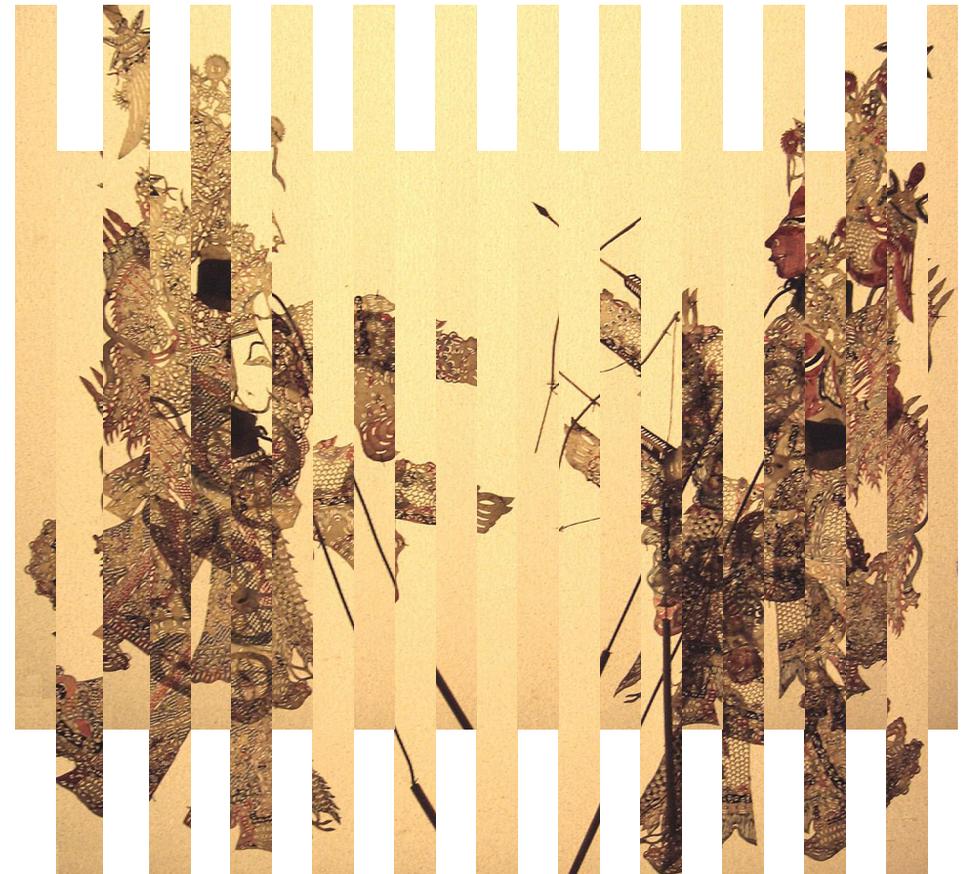


Three Approaches of Shadow Research

3. Shadow Play Strip Slide



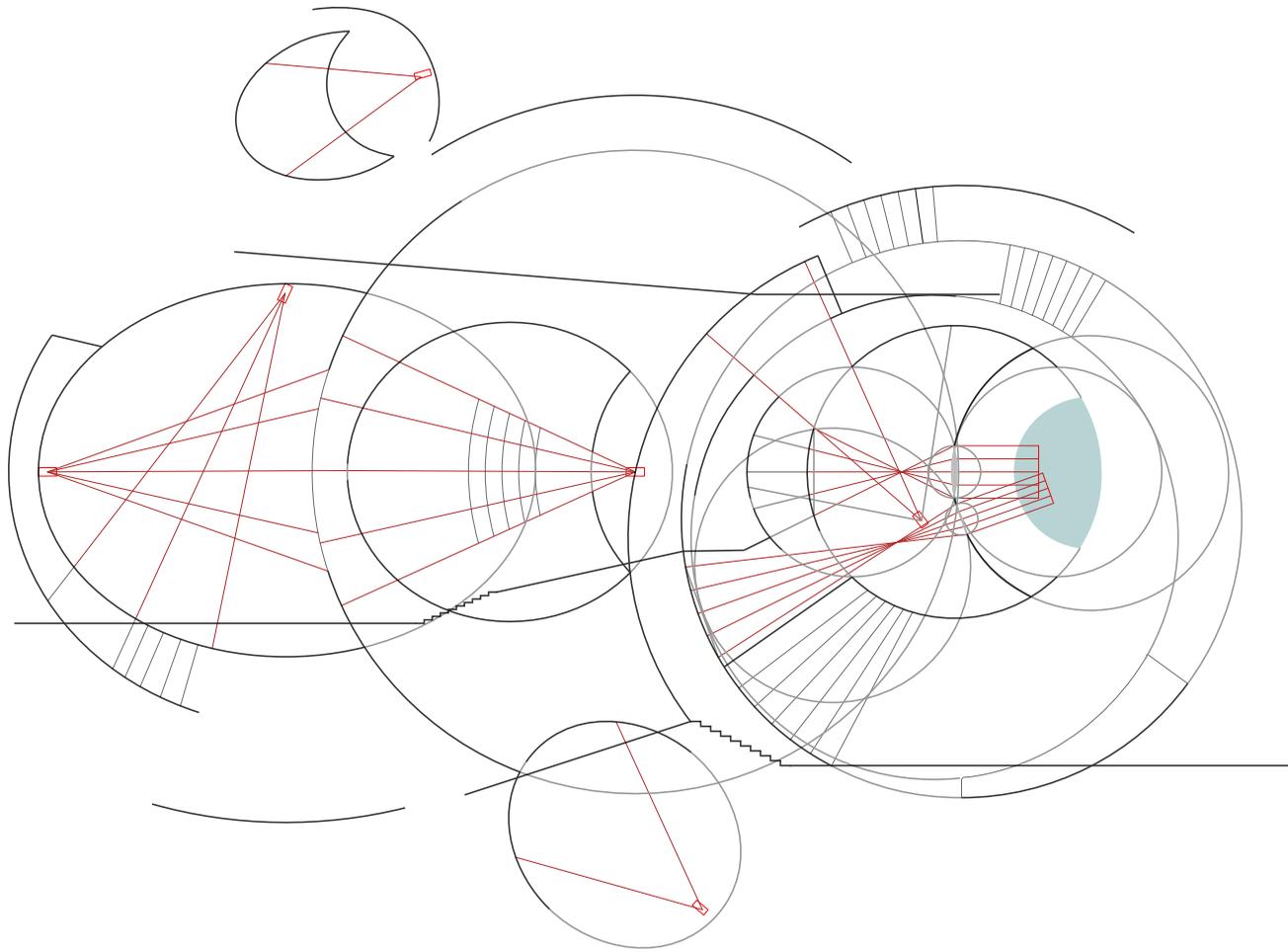
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Building Shadow Interaction Experiment

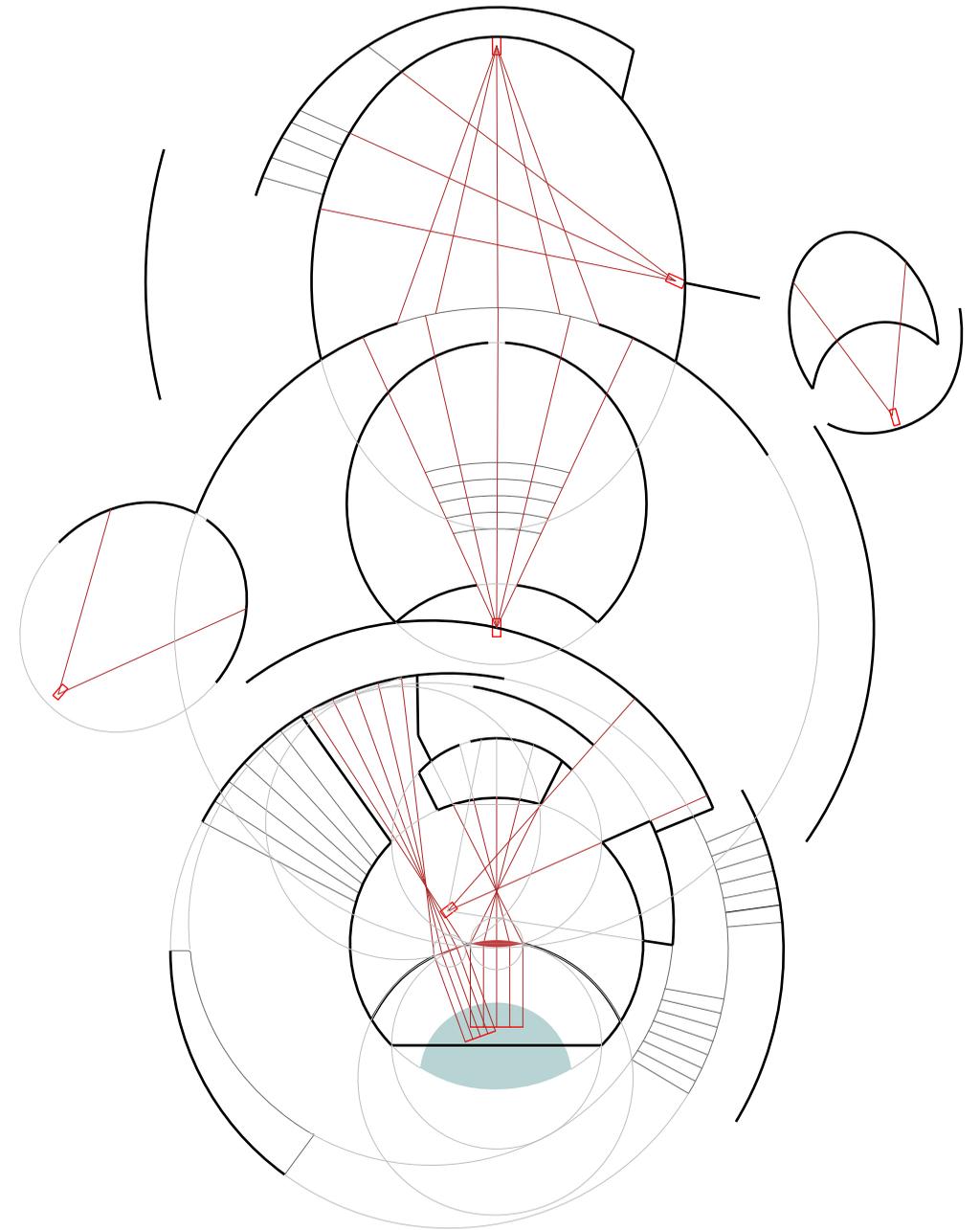


Section And Plan Convert From Lens Principal



Section

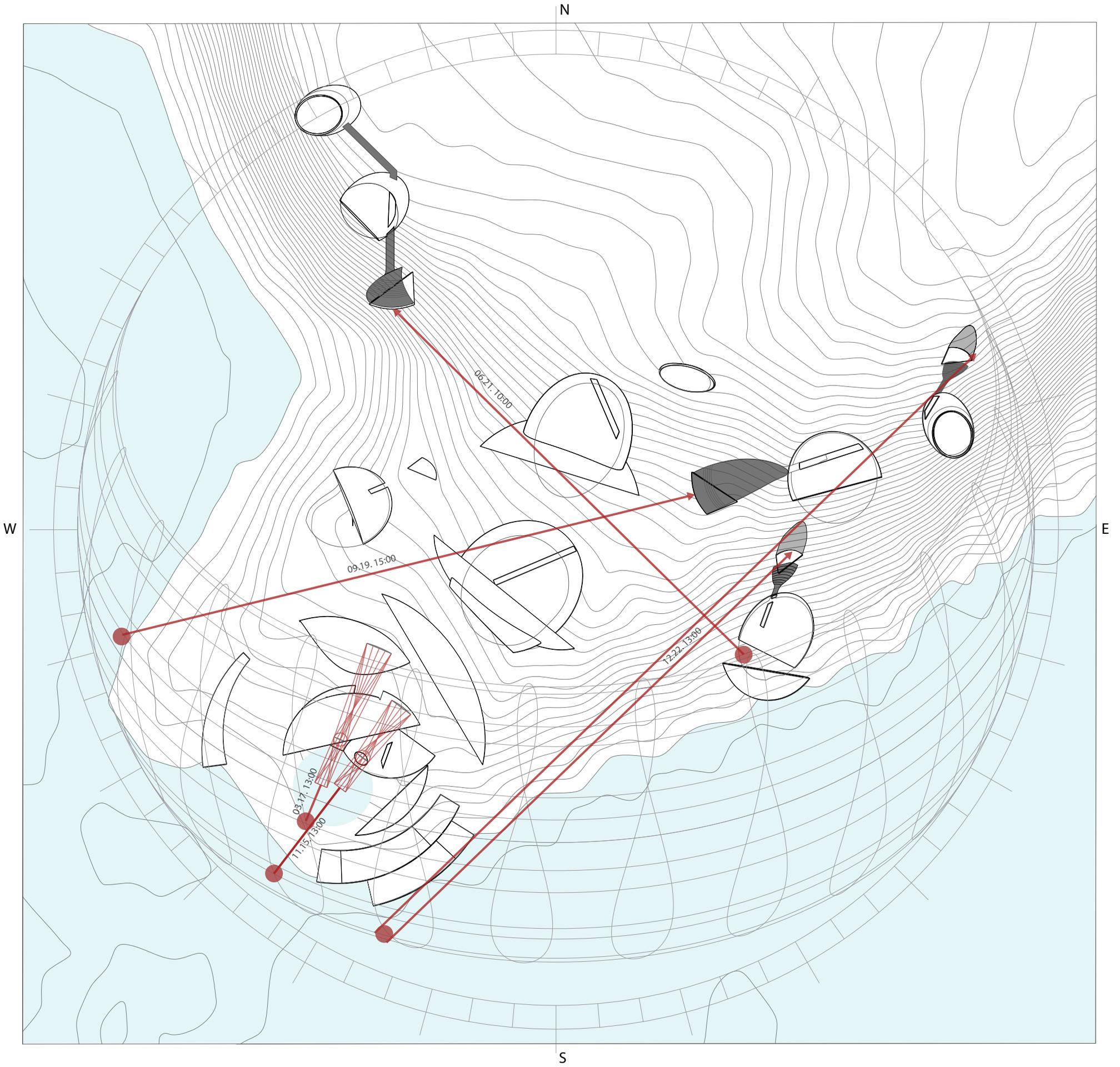
In this project, both section and plan originally come from lens principal.

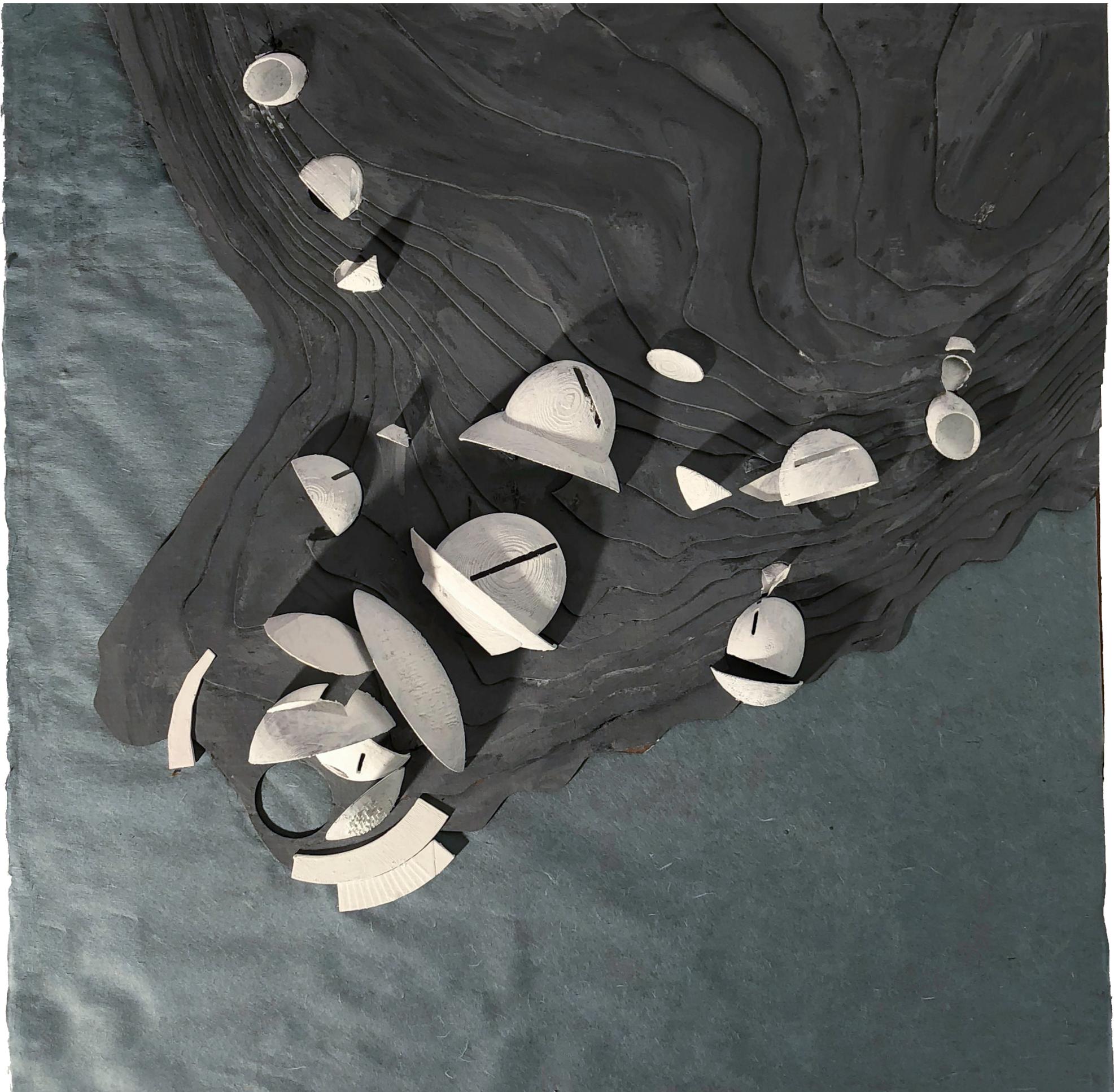


Plan

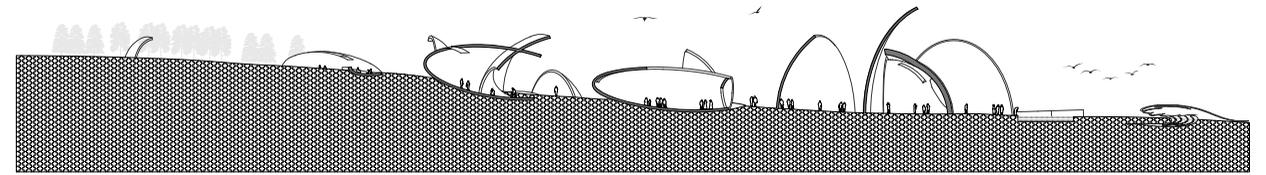
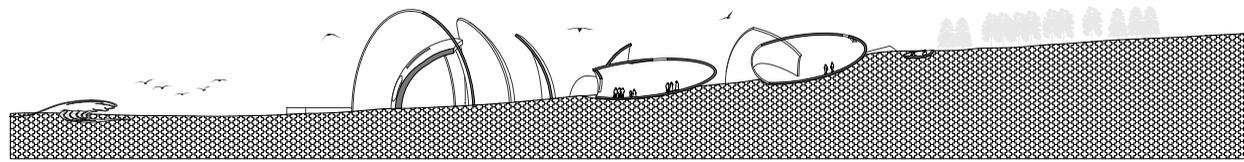
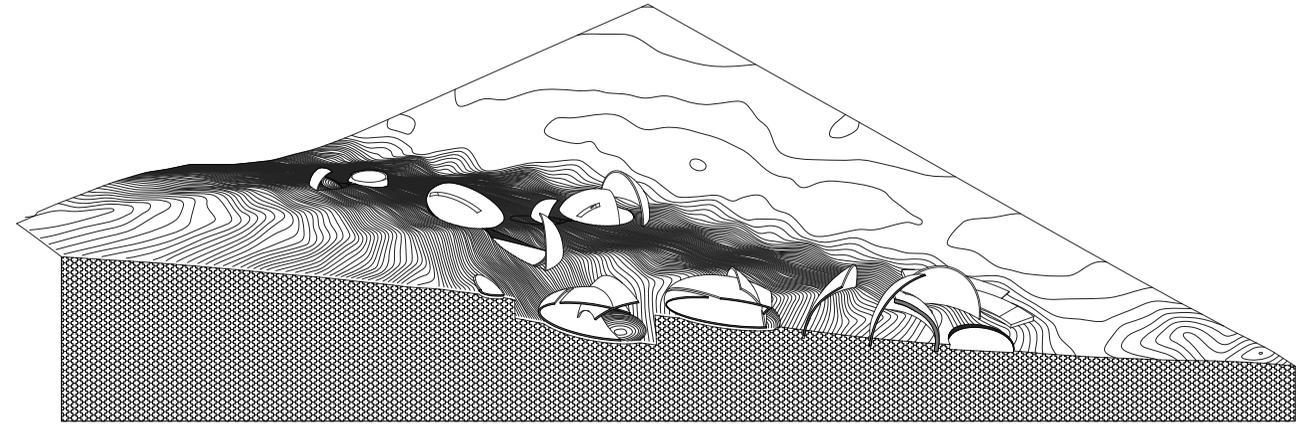
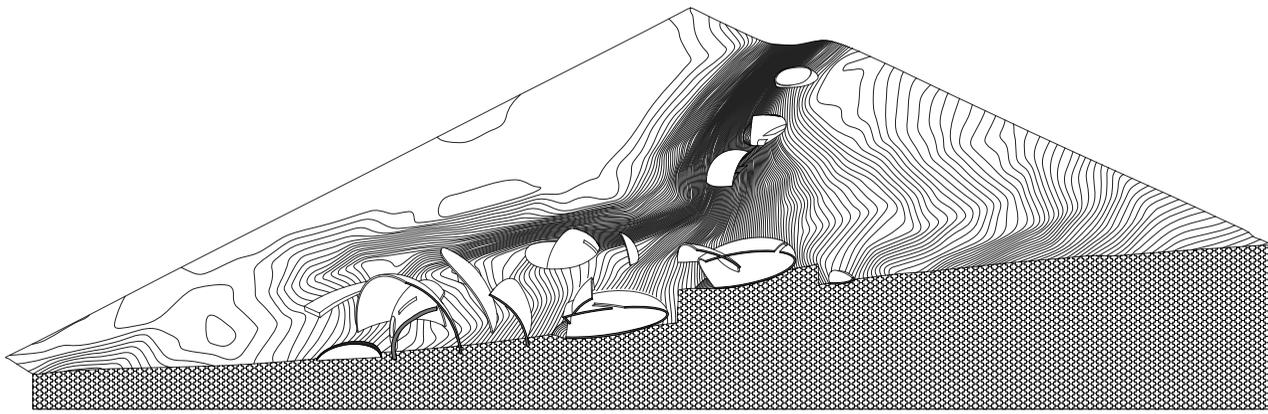


Pemaquid Point, Maine





Perspective Section And Section



0 2 4 8m



