

# NATURALLY ADAPTIVE ARCHITECTURE

## FASCINATION

Architecture is on one hand an organizational-, and on the other hand a phenomenological issue. Primarily it distributes spaces and unfolds around human movement, but essentially it appears to us in a sensational manner. It is about the design of man's environment, and therefore a question of human ontology. Therefore an architectural design should reflect human properties and be formulated in relation to human senses.

Those senses have evolved over excessive amounts of generations of our predecessors in a continuous reflection on their environment. The origins of these senses are therefore situated in the natural environment they evolved in. Besides the physical senses that have emerged from this process, the way how the perceived is processed on an emotional level finds its origins in the same source. Although it is out of the scope of an architect to influence a prospected user's emotions, it is possible to design in reference to their origins. It is therefore appropriate to address the natural environment in order to design one anew.

Over the past few millennia man has more and more tried to gain control over its environment. There seems to be an inherent desire to control ones environment. Current technological developments have paved the way to design architecture in a way that its user gains a sense of control over its surroundings. Through responsive design the user enrolls in a reciprocal relation with its environment and may start a dialogue with it.

In the project a pavilion with dynamic functionality will be designed. The pavilion will be able to change according to its functional demands and consequent phenomenological needs.

## CONTEXT

Since Laugier's primitive hut architecture has become more and more abstracted from nature. It has however, until modernist times, been an abstraction of nature, with man as reference. Modernist times aimed to neglect architecture's natural origins, as well as its own history. The machine became the reference, orthogonal modularity the standard.

To reestablish the relation between architecture and human ontology it should be related to the natural environment again. Besides that the dynamic nature of human ontology as well as of architecture's physical surroundings should be reflected in a responsive design.

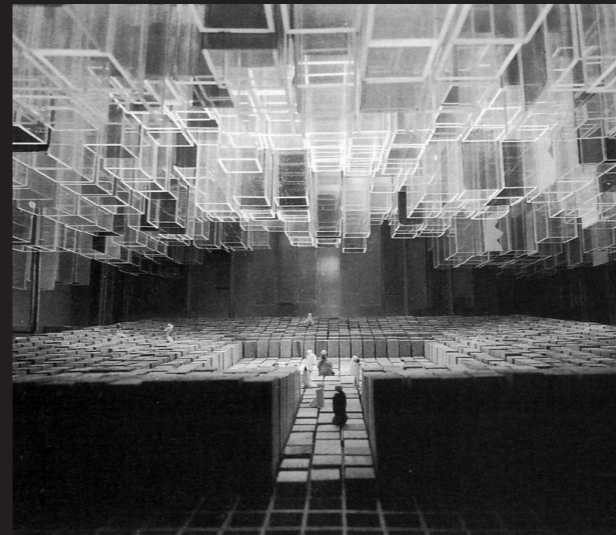
## PROGRAM

For an architectural manifestation aiming to reflect the human ontology in a dynamic way a pavilion seems appropriate. A pavilion lacks a clear programmatic function. To design a pavilion therefore does not (or barely) address the organizational nature of architecture, but merely the phenomenological.

However, the way a specific architectural manifestation is represented is often a result of the organizational (which includes the materialization). To neglect the organizational nature of architecture therefore raises the question of what it is that is represented and may unnecessarily complicate the design process.



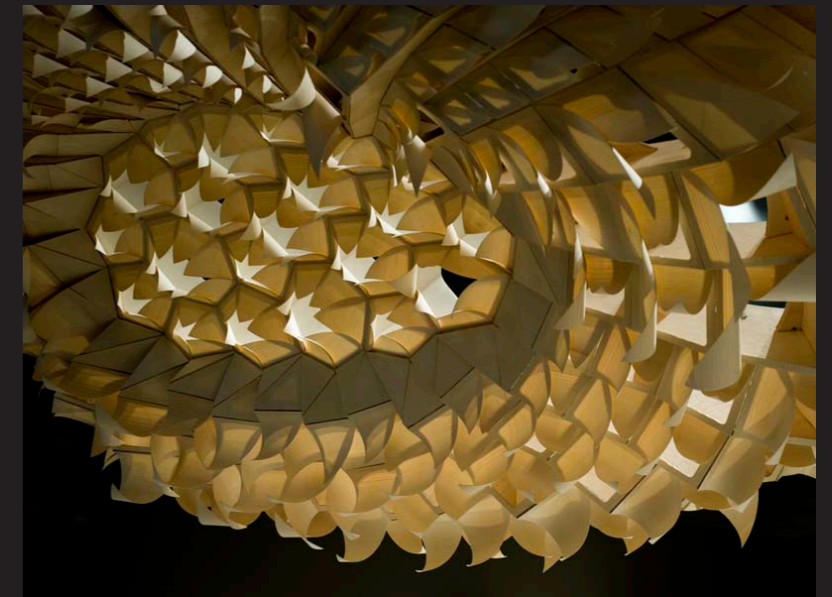
Michael Hansmeyer - Arabesque Wall  
Michael Hansmeyer aims to imitate natural morphogenesis by cellular division through algorithms that iteratively fold geometry.



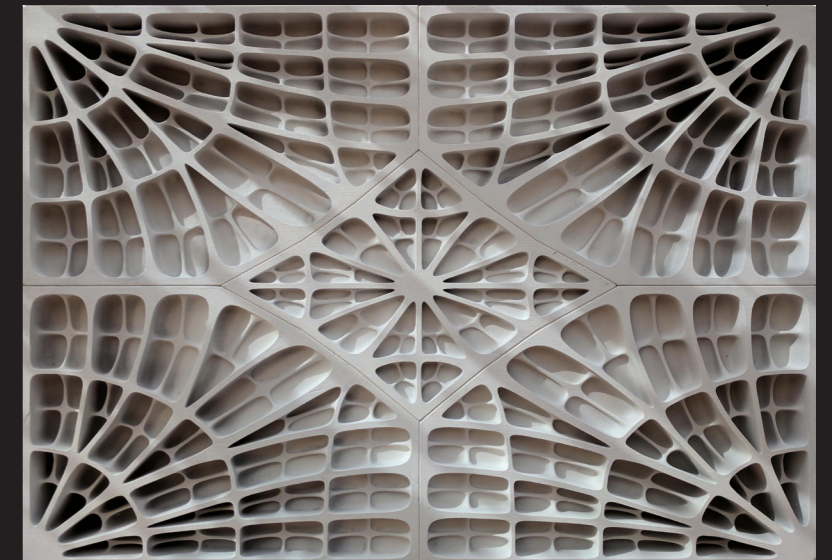
Maurizio Sacripanti - Lyrical Theatre  
The kinematic design for this theatre enables a limitless amount of different configurations.



Philip Beesley - Epiphite Chamber  
By designing responsive installations living structures are imitated by Philip Beesley.



Achim Menges and Steffen Reichert - Hygroscope, Meteorosensitive Morphology  
In this conceptual design a multiplicity of elements work individually responding similarly to the same environmental properties.



Block Research Group - 3D Sand Printed Floor  
Natural patterns emerged through topological optimization