

Thesis Additional Material

Guidelines for the Student Design Competition , May 1999

A Regional Meteorological Center and Field Station

ASCA Student Design Competition 1998-1999

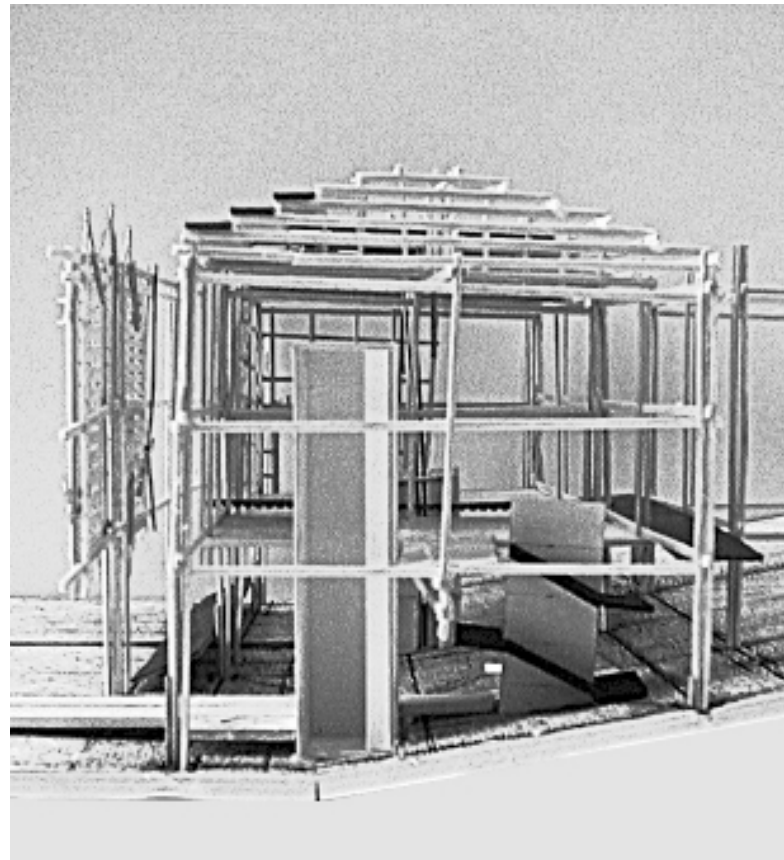
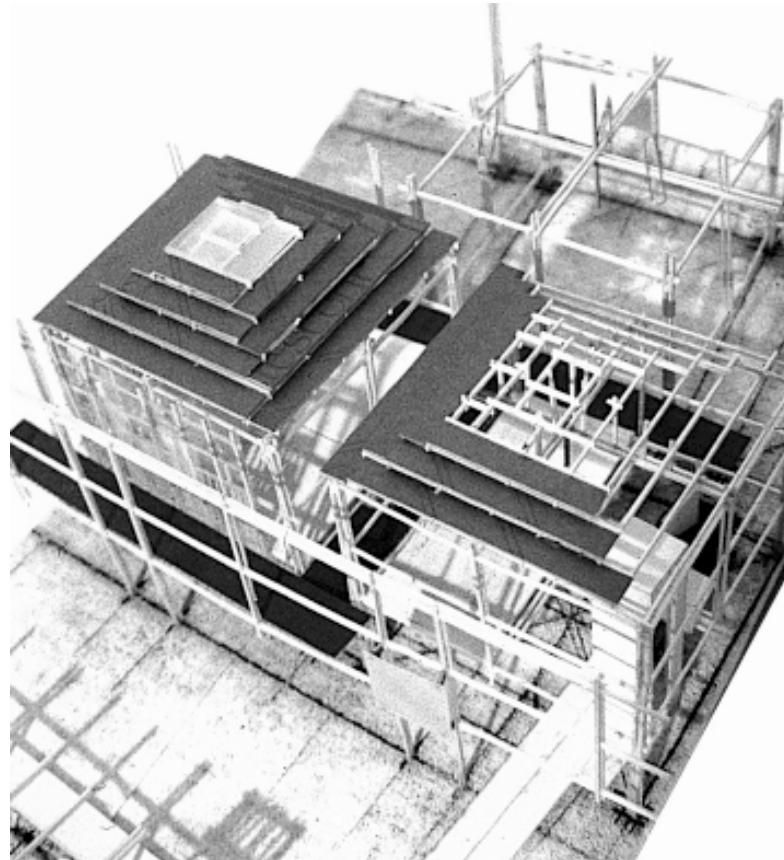
"This year's competition addresses the issue of weather. How can weather affect a building's performance? How can weather affect the formation of its structure? How can it affect its ability to serve as an educational tool for the community? To those ends, the competition challenges students to design a regional meteorological center and field station in Kill Devil Hill, NC.

As the location of the first controlled, powered, heavier-than-air flight, the site is laden with symbolism, both in terms of its intrinsic qualities of wood, its lightness and flexible strength, were key elements in the design of the Wright Brothers' aircraft. Spruce and ash were used as integral structural components in the Brothers' plane. The launching students are asked to design a facility that will enhance the overall understanding of how weather affects both the topography and structures in coastal communities.

Issues and objectives

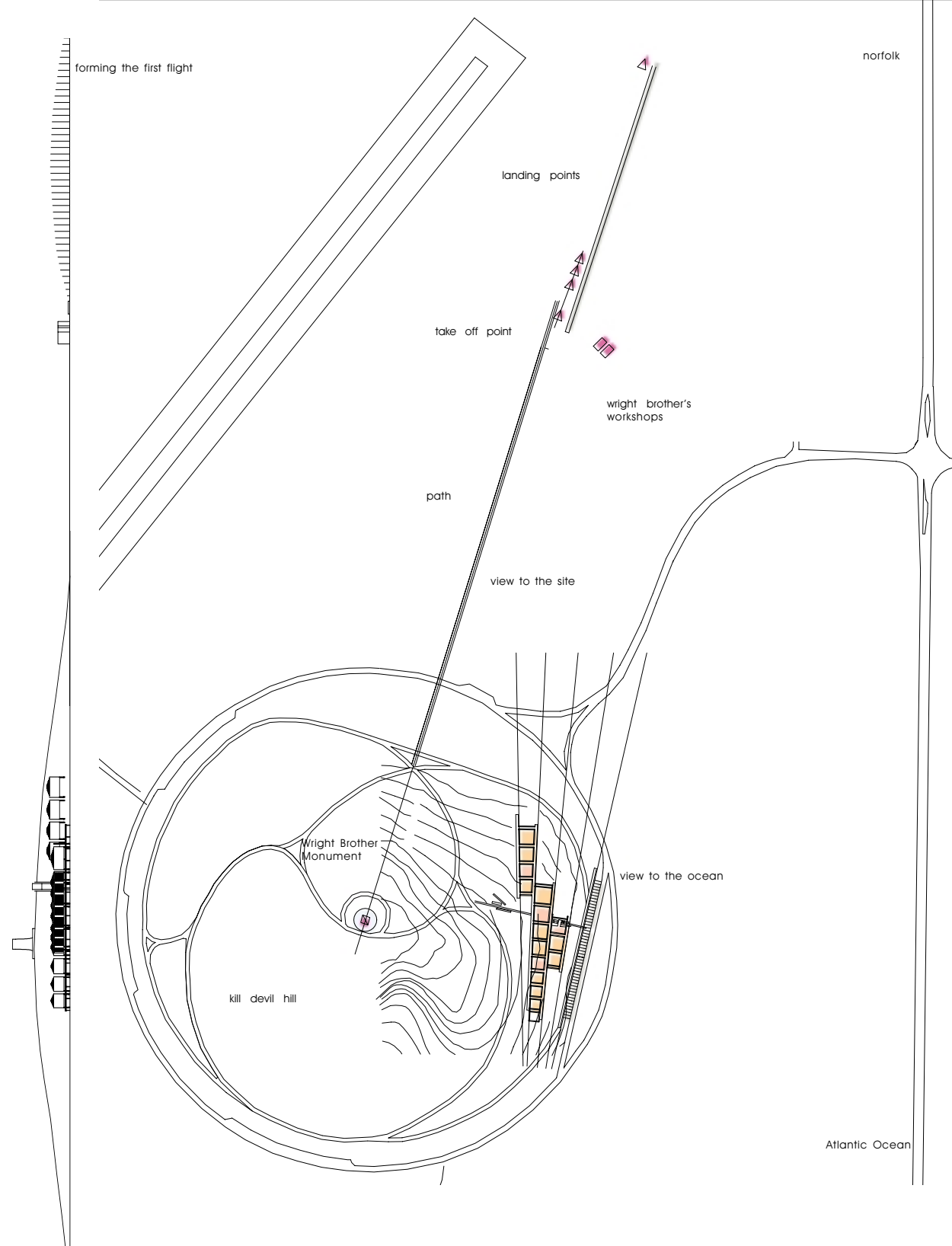
The central aim of the Meteorological Center and Field Station will be two fold; to collect and corresponding inability to adequately accommodate the volume of tourists who visit the site each day. By 2003, in fact the National Park Service's general management plan for the memorial grounds calls for the center to be removed, with the area grubbed and revegetated. Therefore, for the purposes of this competition, students may make one of three assumptions when formulating a site scheme: 1) the visitor center remains intact where it is currently intact where it is situated; 2) the visitor center has been demolished and rebuilt in a different location on the site ; or 3) the visitor center remains in its present location and is incorporated in with the Meteorological Center and Field station.

.....to provide an educational center for the study of the long- and short term effects of weather upon both the structures and topography along the North Carolina coastline. The given site's proximity to the Atlantic Coast, and by extension its susceptibility to inclement weather during the summer hurricane season, promoted a close investigation into the type of wood structures that could sustain weather"



working models for the ASCA Wood Competition, May 1999

WEATHER PIER kill devil hill



encompassing weather and history



Wilbur and Orville Wright's achievement of the first successful airplane flight on Dec 17, 1903



The Wright Brother's workshop, 1903



Wright Brother Memorial at Kill Devil Hill, North Carolina, 1999



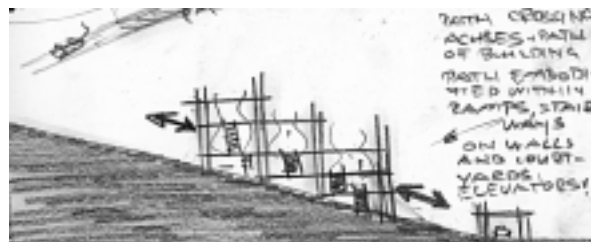
Encountering the weather by different layers



Cyclical flood



The site's closeness to the Atlantic Ocean

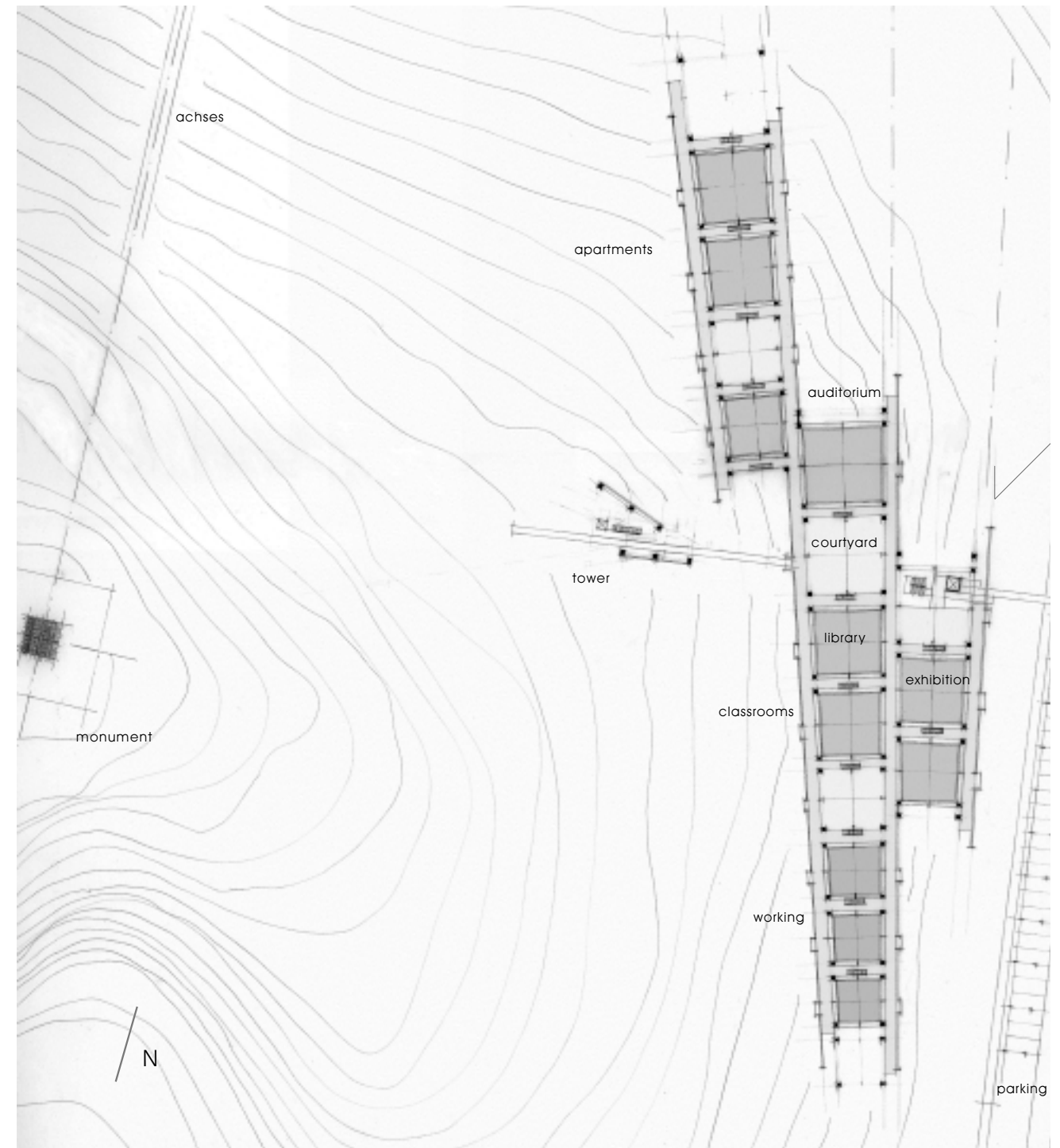


Main structure in wood



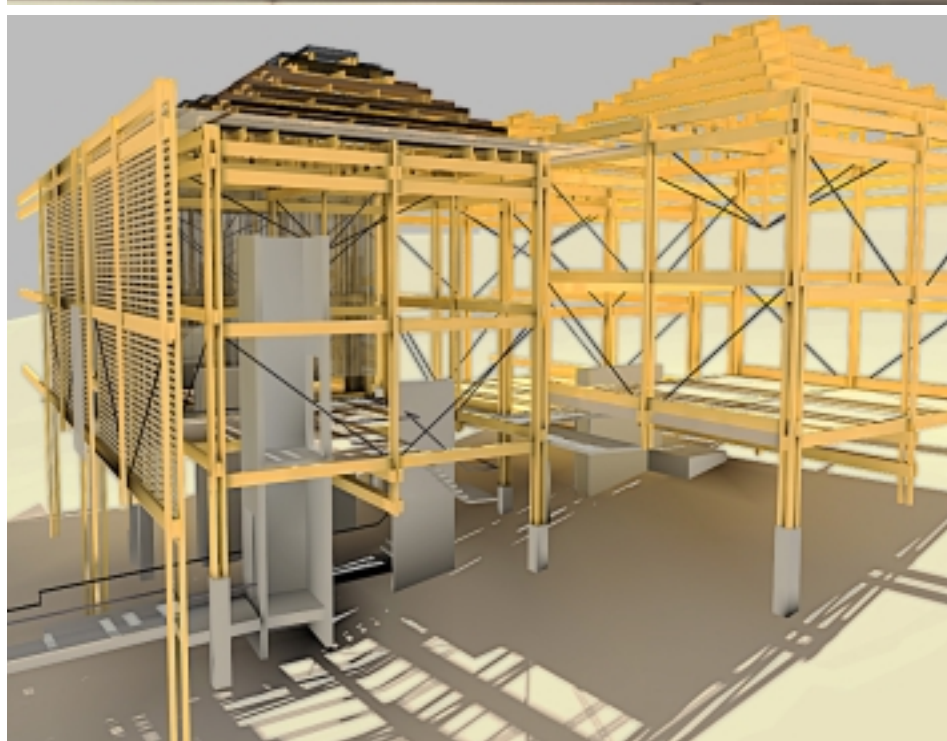
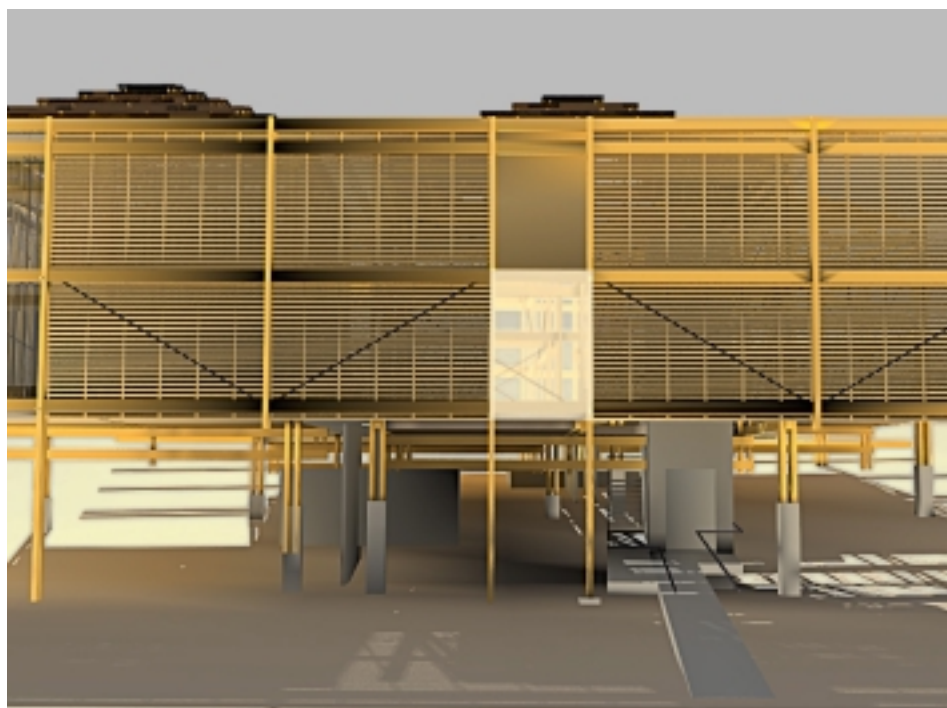
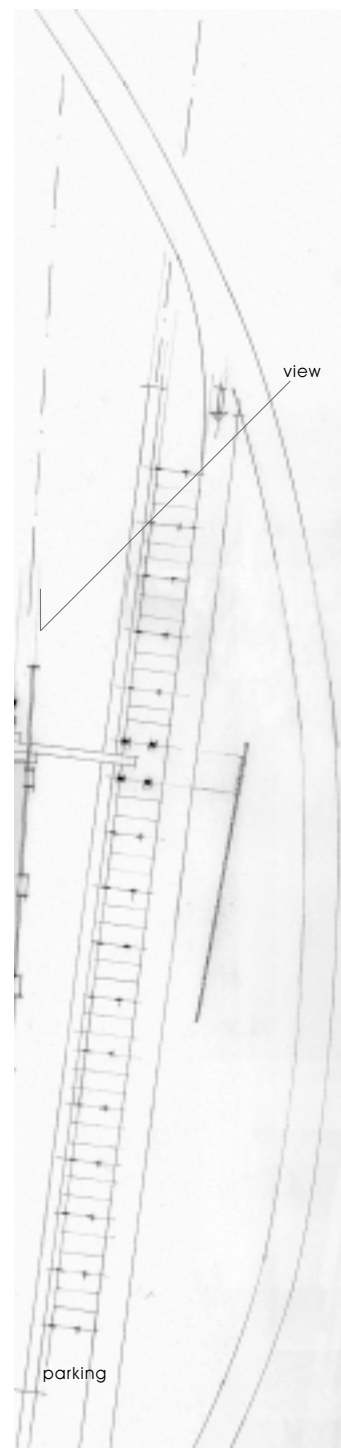
The meteorological center and museum

WEATHER PIER kill devil hill



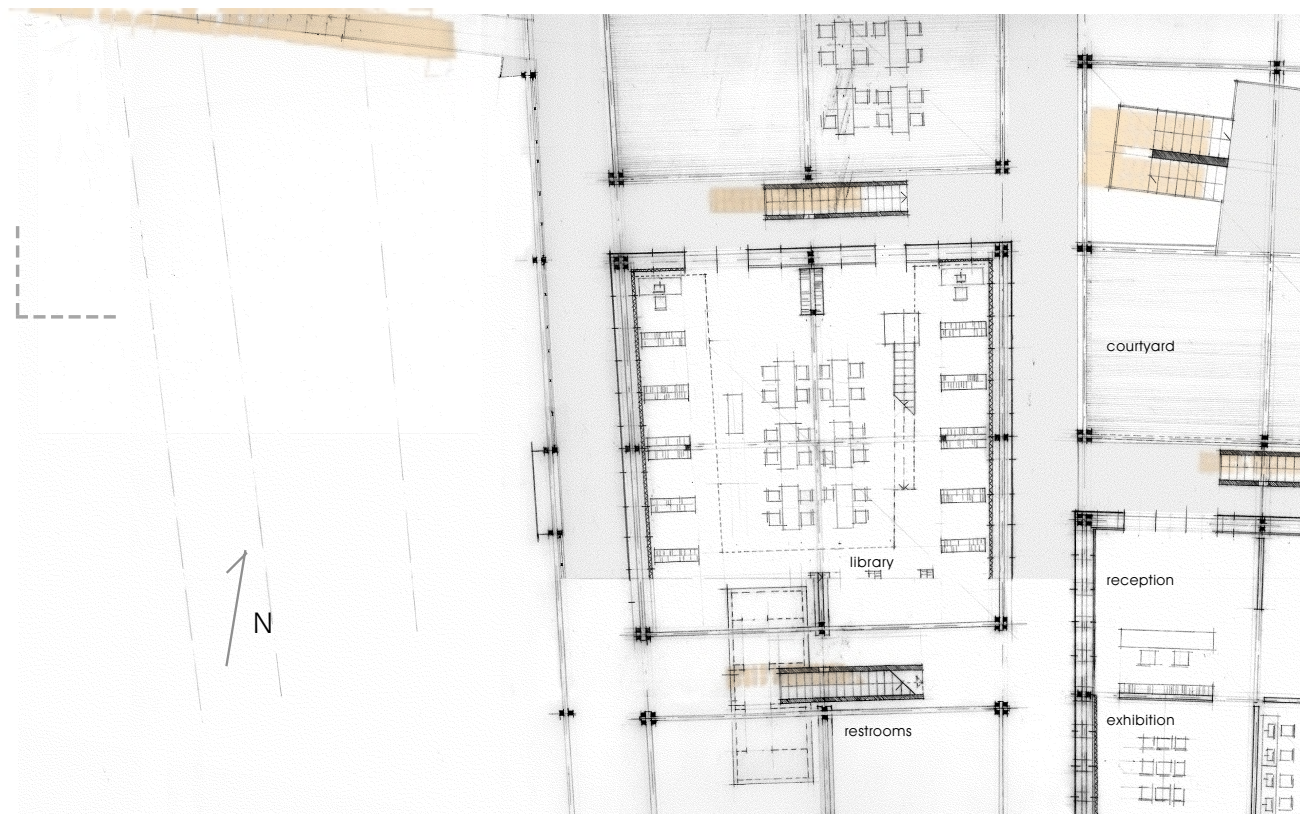
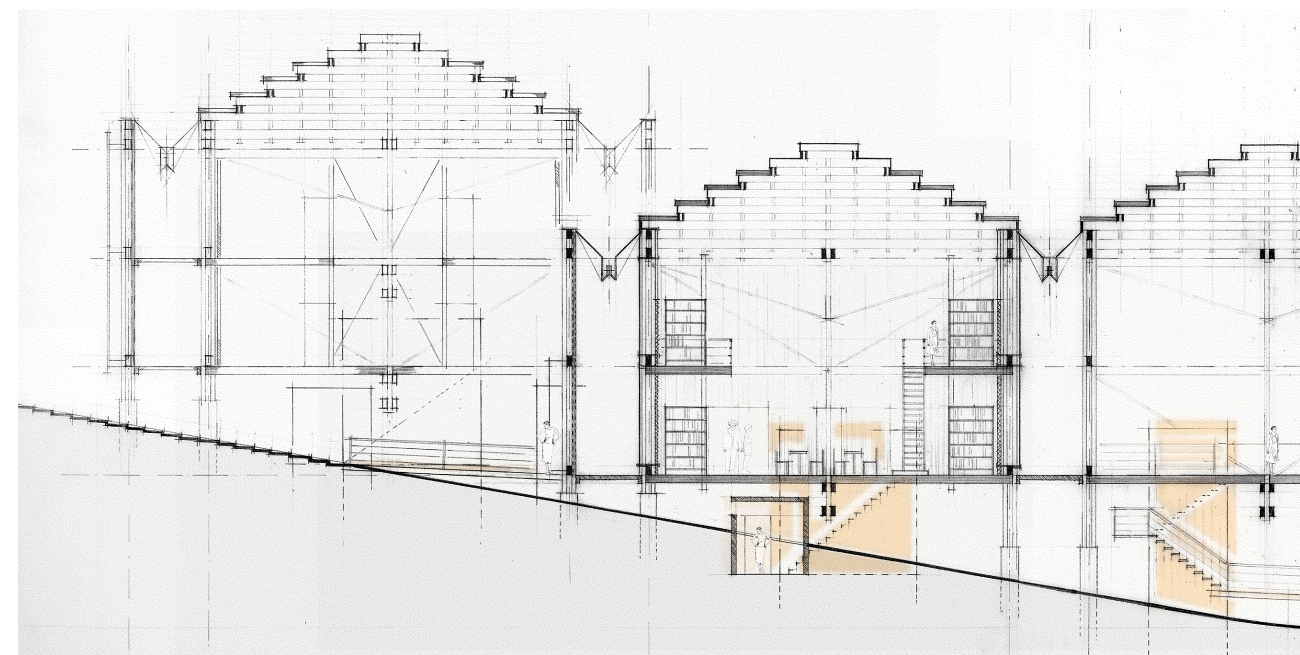
siteplan scale appr. 1/500

from the outside to the inside



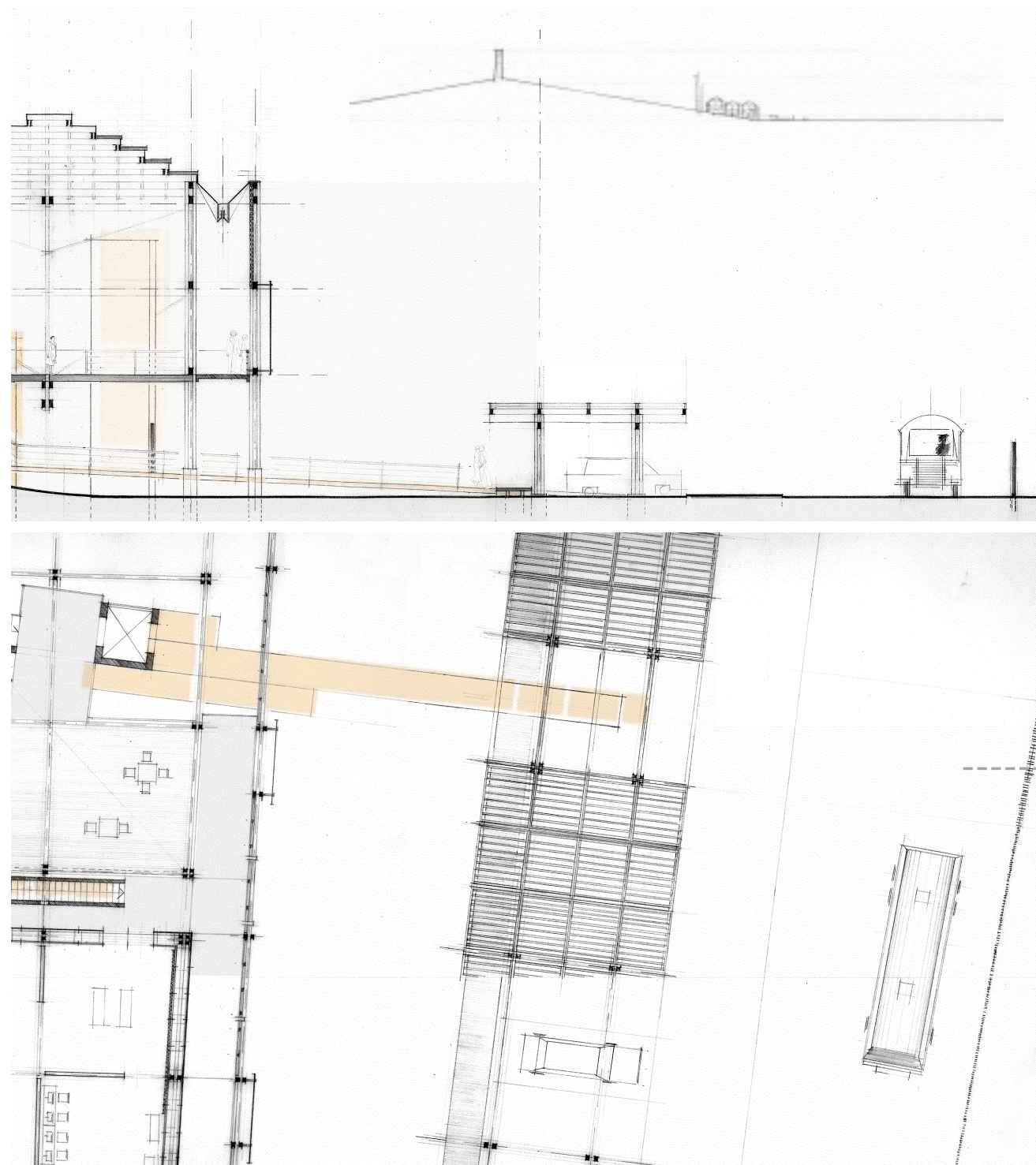
entrance, protecting wall, concrete elements

WEATHER PIER Kill Devil Hill

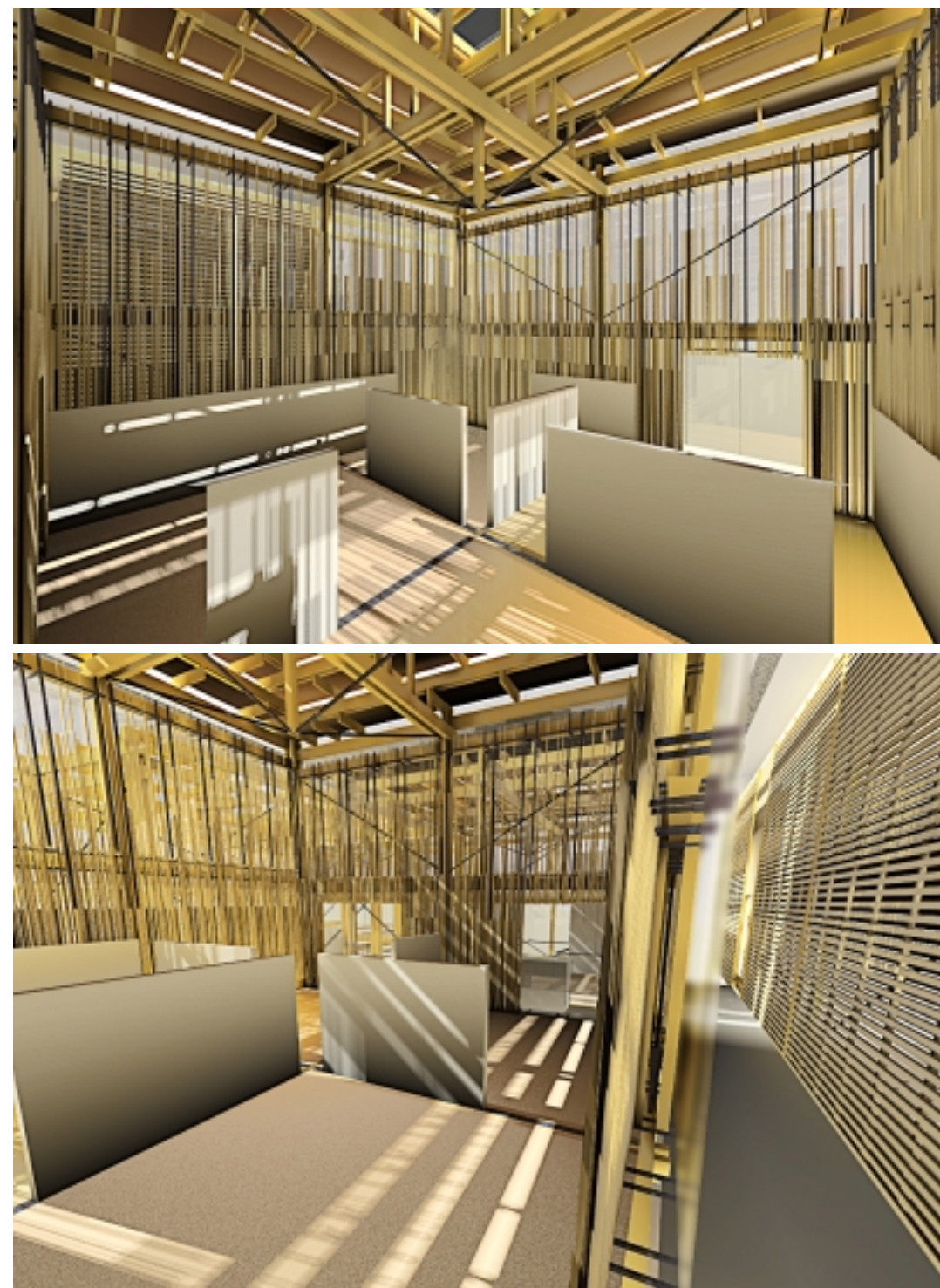


part of the site-plan and the section scale appr. 1/100

walking through the space

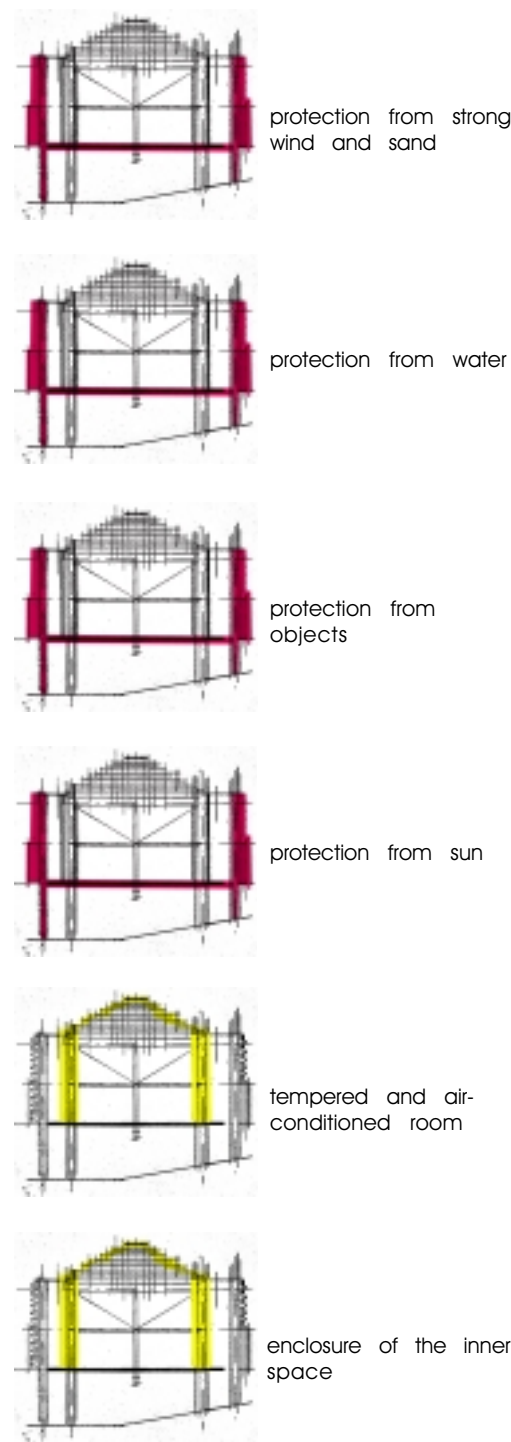


WEATHER PIER kill devil hill

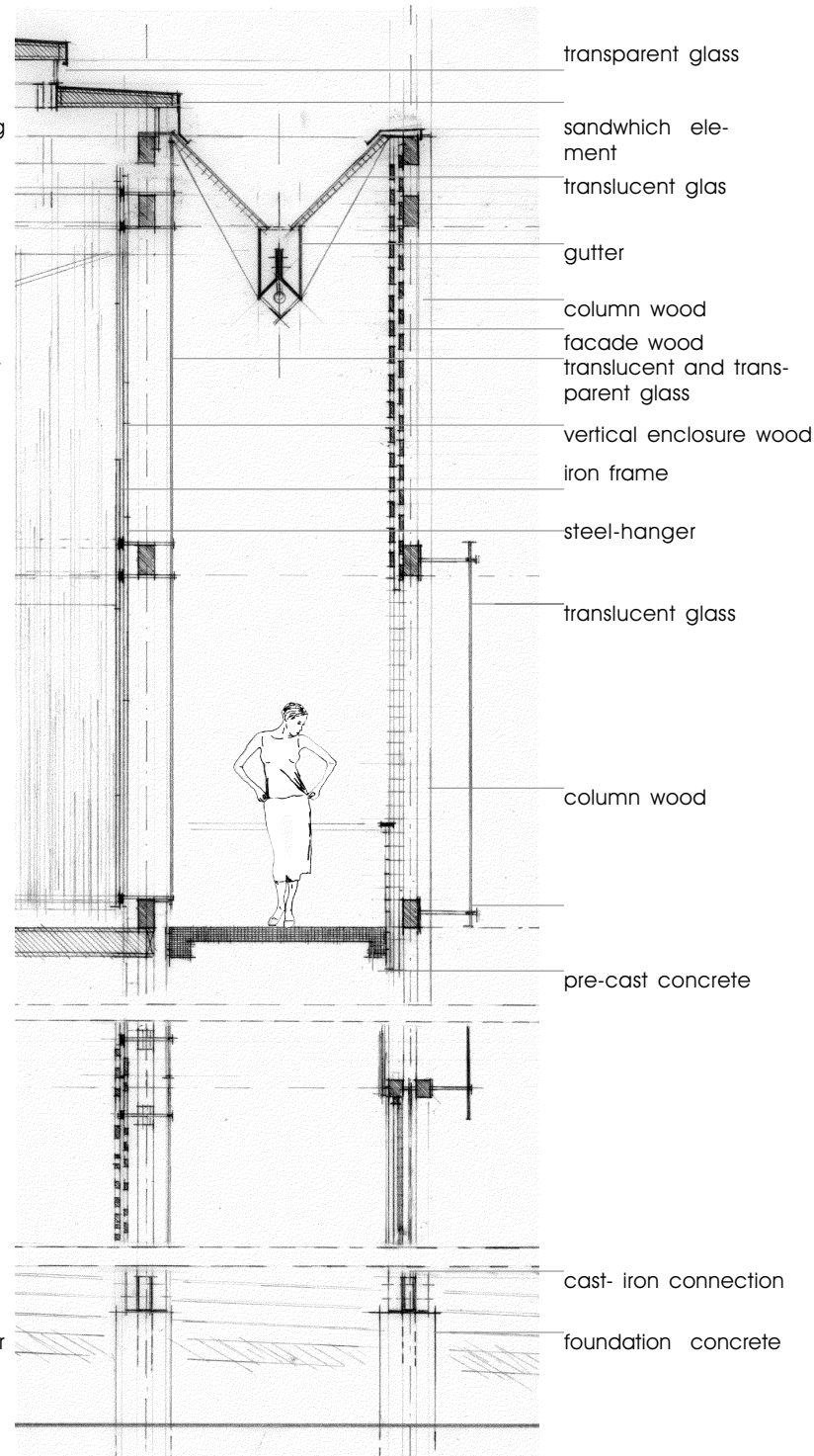


views from the reception hall and exhibition space layer

layers for wind, sand, sun and water



layer exercises



detail facade layers

Reflections

In this page I offer some reflections after the work on the competition was finished. There are three considerations : the poetic attitude, the main space, and the issue of weather.

The first consideration is the idea to involve poetics into the design process. While designing I was fascinated with the idea to enhance the building due to the extreme weather conditions. I tried to transform the poetics of the wind into the project and failed. Some interesting questions arose:

Is it possible to transform poetics into the field of architecture?

What does it mean to interpret a poetic phrase? How far can one experience architecture as poetic?

The second consideration is the main spaces. In the competition I designed a repetition of main spaces which are held together by surrounding paths. These paths frame each main space, and through repetition a complex building was formed.

Some questions arose :

What are the consequences to add main spaces to a complex entity?

How can one design many main spaces in which each space is still identified separately? Does not each main space seek for its own identity?

How does the character of each space alter if connected together?

Are not the paths the main elements of the design?

The last consideration deals with the extreme weather condition of the North Carolina beach. In the competition the program asked, "How can weather affect a buildings performance?" My initial concept of the buildings for the competition are air conditioned main spaces which are encompassed by a glass construction.

These volumes protect the inside from temperature and wind. In order to protect these fragile main glass boxes from rain, sand and flying objects, a secondary enclosure encompasses it.

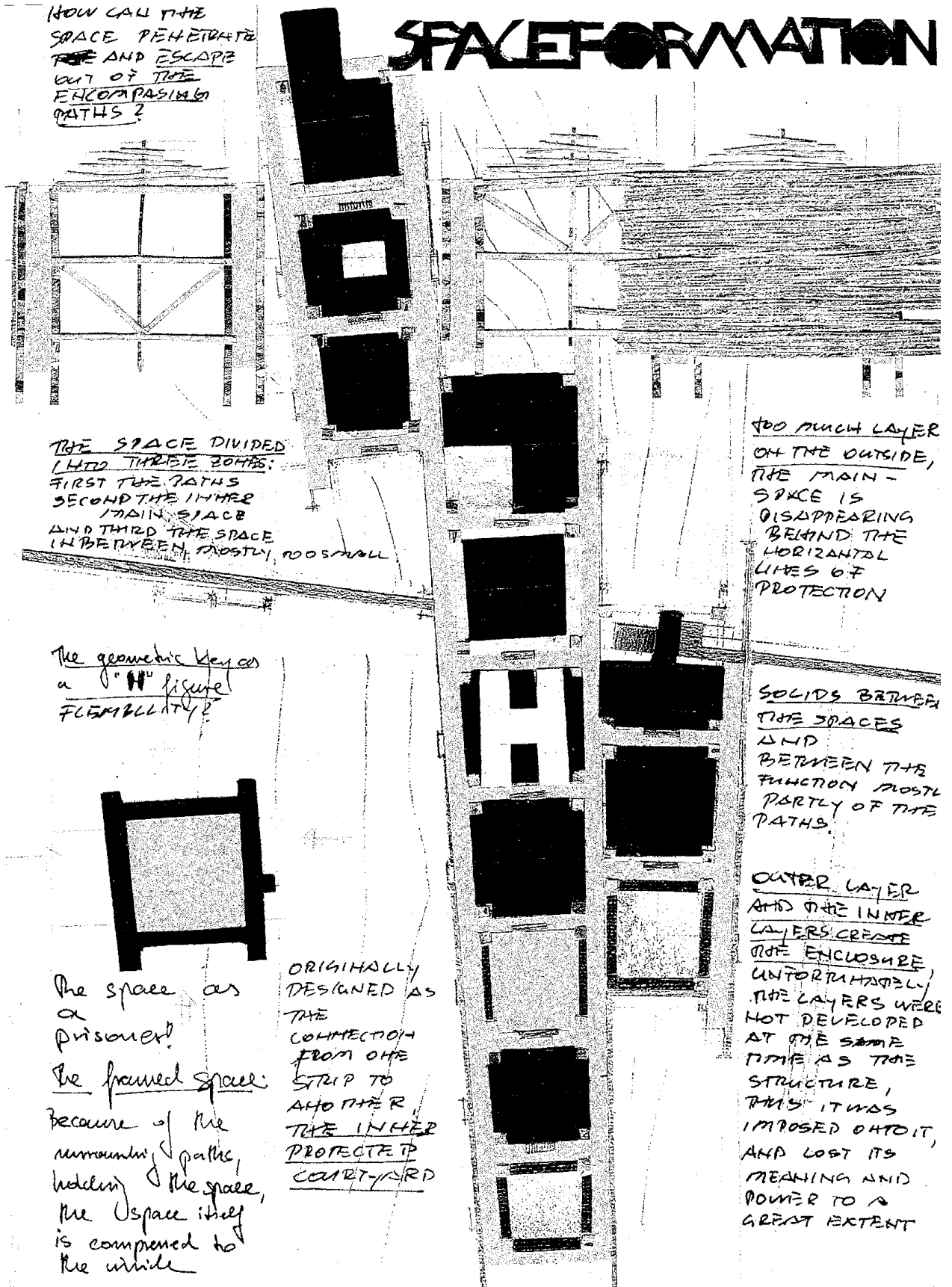
Between the secondary enclosure of wood studs and the inner enclosure of glass, there is the space for the path. The outer enclosure is perceived as a protecting wood wall.

A question could be:

How can one design a protection for the building that the inside of the building is still perceived from the outside?

How far can one design a building that protects the building from the negative weather aspects but also have ability to use the positive weather aspects?

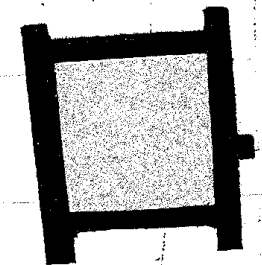
SPACEFORMATION



HOW CAN THE SPACE PENETRATE ~~THE~~ AND ESCAPE OUT OF THE ENCLOSURE PATHS?

THE SPACE DIVIDED INTO THREE ZONES:
FIRST THE PATHS
SECOND THE INNER MAIN SPACE
AND THIRD THE SPACE IN BETWEEN, MOSTLY ROOMS

The geometric key as a "H" figure FLEXIBILITY?



The space as a prison?
The framed space:
Because of the remaining paths, holding the space, the space itself is compressed to the white

ORIGINALLY DESIGNED AS THE CONNECTION FROM ONE STRIP TO ANOTHER THE INNER PROTECTED COURTYARD

TOO MUCH LAYER ON THE OUTSIDE, THE MAIN SPACE IS DISAPPEARING BEHIND THE HORIZONTAL LINES OF PROTECTION

SOLIDS BETWEEN THE SPACES AND BETWEEN THE FUNCTION MOSTLY PARTLY OF THE PATHS.

OUTER LAYER AND THE INNER LAYERS CREATE THE ENCLOSURE UNFORTUNATELY THE LAYERS WERE NOT DEVELOPED AT THE SAME TIME AS THE STRUCTURE, THIS IT WAS IMPOSED ON IT, AND LOST ITS MEANING AND POWER TO A GREAT EXTENT

The Development of a Plan

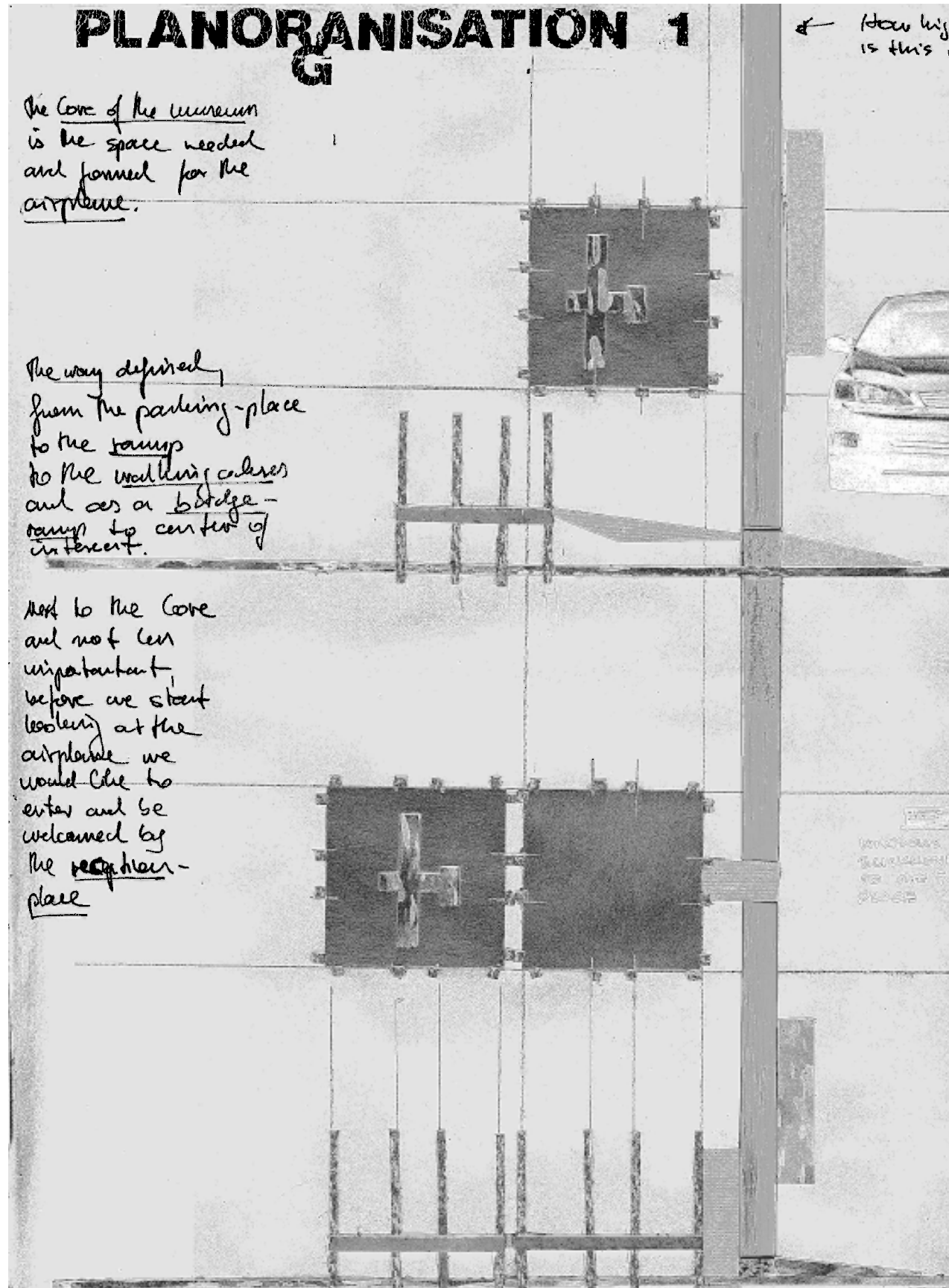
PLAN ORGANISATION 1

The Core of the museum is the space needed and formed for the airplane.

The way defined from the parking-place to the ramps to the walking catwalks and as a bridge-ramp to center of interest.

Next to the Core and not less important before we start looking at the airplane we would like to enter and be welcomed by the reception-place

How high is this



Weather Research Center and Wright Brothers' Museum Plan Development Part 1

PLAN ORGANISATION 2

VE TAVOLI GUARDANDO E ACCOLPANDO LA PRESENTAZIONE DEL GUARDO. LOOKING AT THE MOUNTAINS AT DIFFERENT LEVELS SIT AND WATCH

A MUSEUMS SHOP WITHIN THE RECEPTION SPACE AND EXHIBITION, RESTROOMS

The King's idea is to go from one room to another without paths...

idea of separate shop + coffee

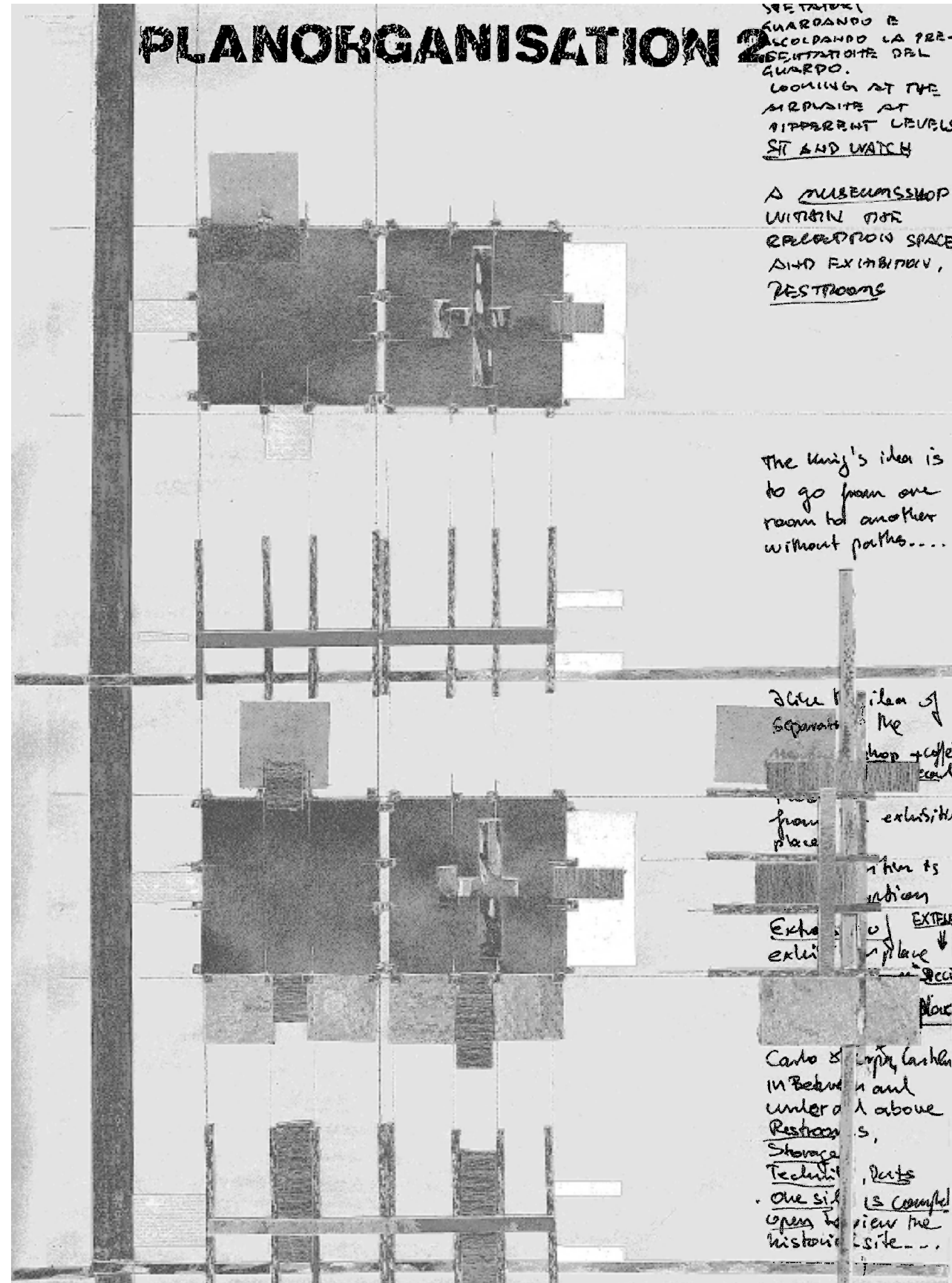
exhibition place

when is indian

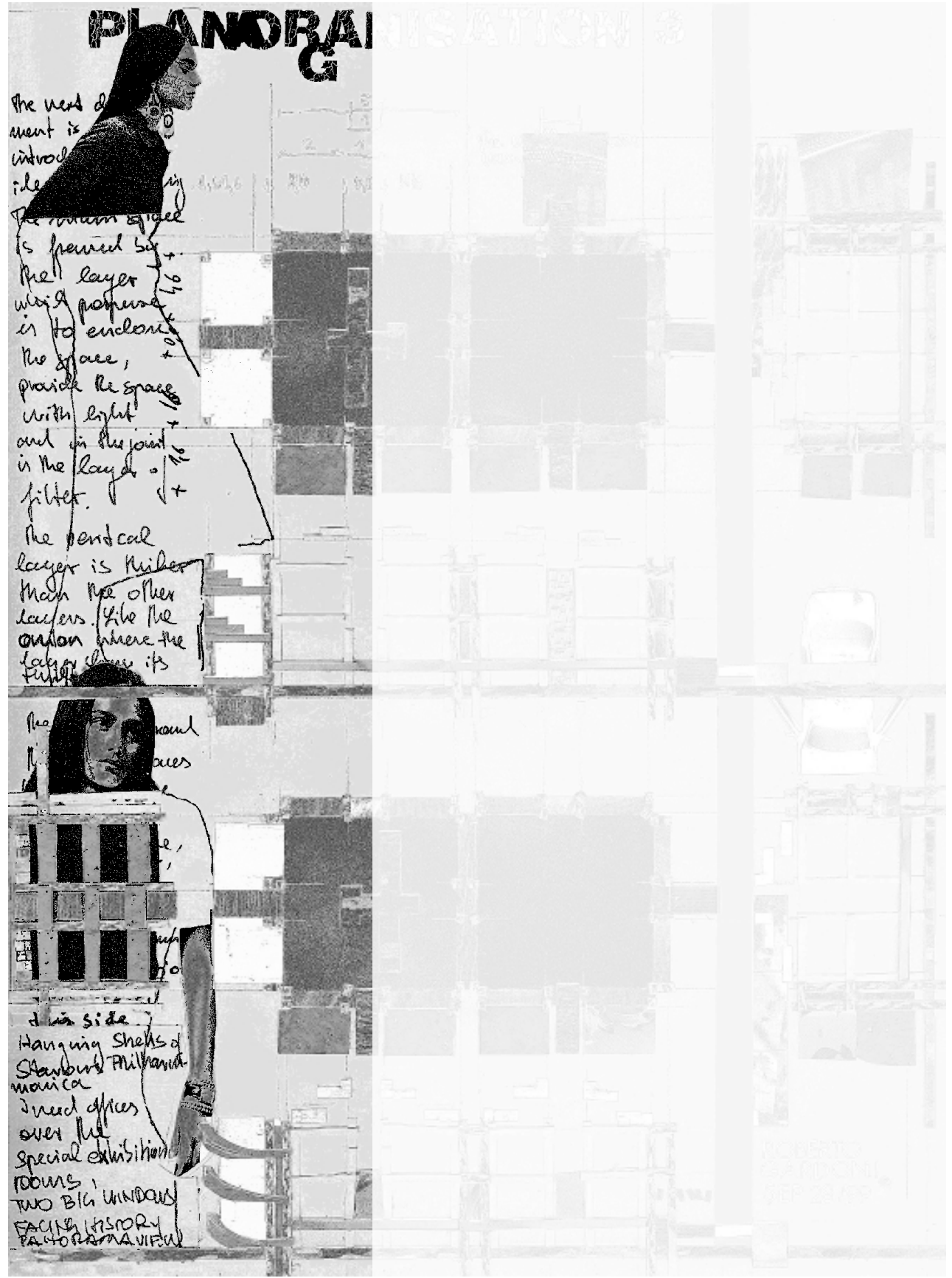
EXHIBITION place

Carlo & Lynn Cashen in behind and under Restrooms, Storage

Technical Rests one side is completed open to view the historical site...



Weather Research Center and Wright Brothers' Museum Plan Development Part 2



Weather Research Center and Wright Brothers' Museum Plan Development Part 3

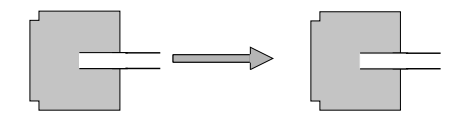
**Side Lines:
a short Investigation of Geometry in Islamic Architecture**

geometry:

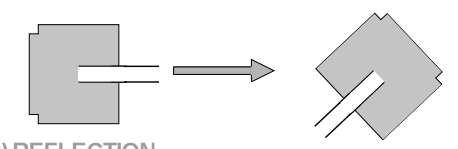
In my opinion, the research in the world of Islamic architecture offers a treasure of ideas. In the investigation of Islamic architecture it is crucial to understand principles in the use and application of basic geometry in architecture. The basic operations of geometry are the roots for the development of both western architecture and Islamic architecture: The western world approaches the geometry in an additive way of succession, in which the geometric operations are made after the previous one is completed. The Islamic architect operates geometry simultaneously like the simultaneously projection of different slides onto one wall.

basic geometric operations of repetition:

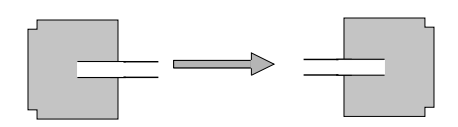
1) TRANSLATE



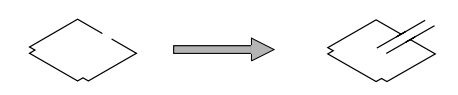
2) ROTATION



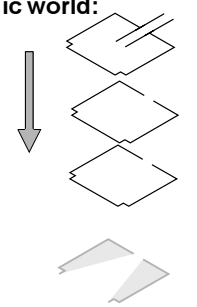
3) REFLECTION



**A) approach of the western world:
SUCCESSION**



**B) approach of the Islamic world:
SIMULTANEITY**



ALHAMBRA

LAYERS BETWEEN SPACES

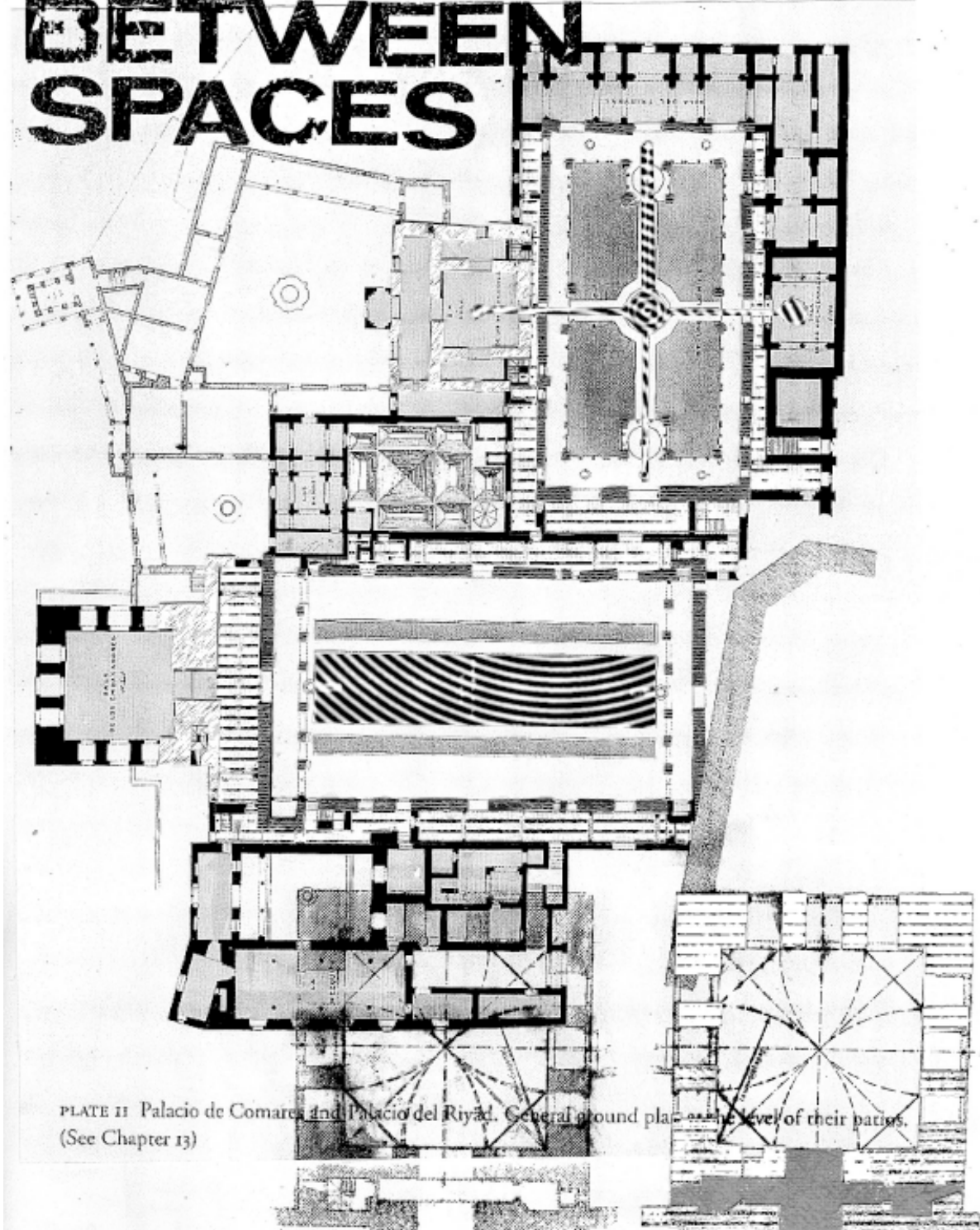
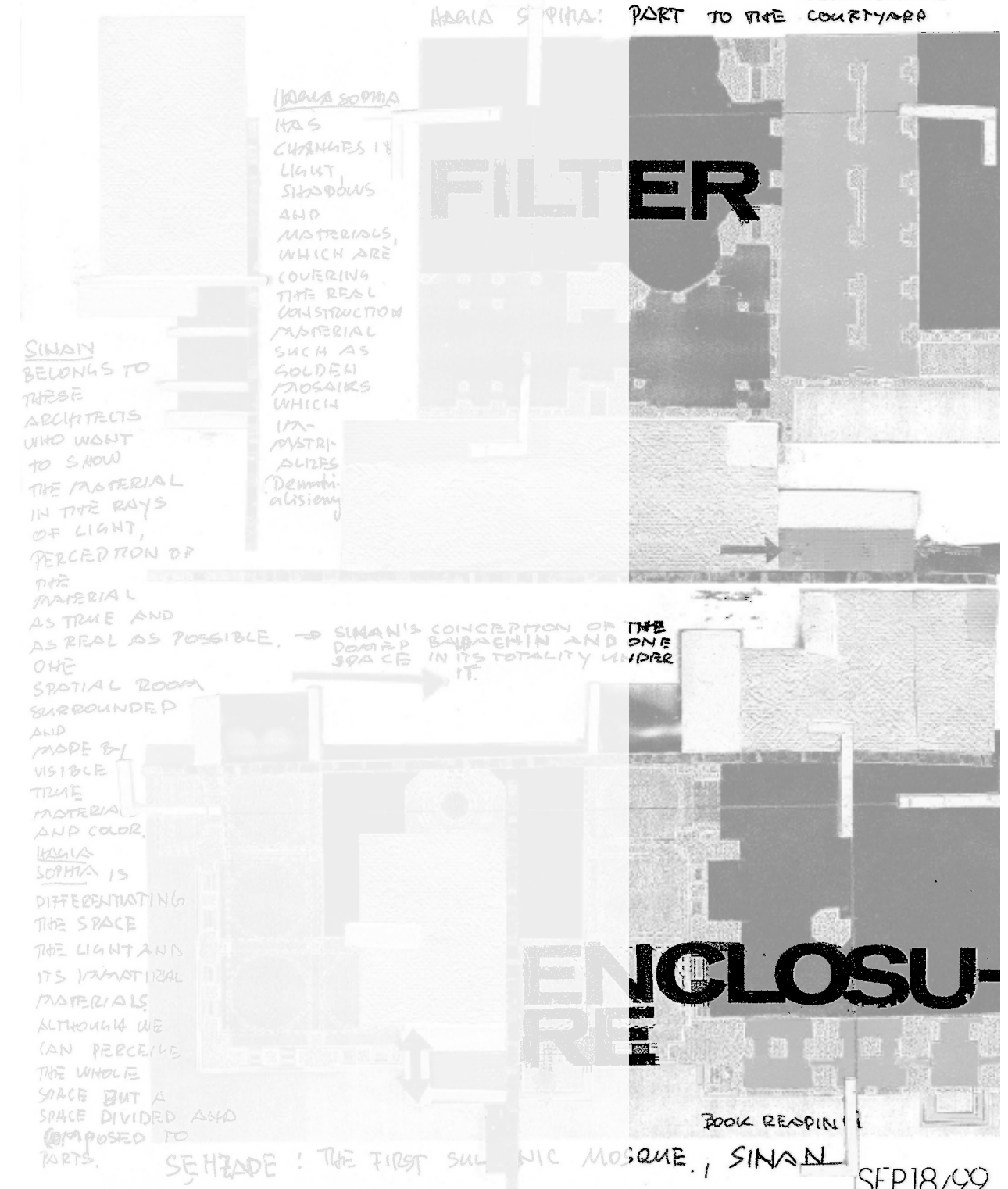


PLATE II Palacio de Comares and Palacio del Riyal. General ground plan on the level of their patios. (See Chapter 13)

SINAN HAGI SOFIA LAYERS OF



ARABIA SOPHIA: PART TO THE COURTYARD

ARABIA SOPHIA HAS CHANGES IN LIGHT, SHADOWS AND MATERIALS, WHICH ARE COVERING THE REAL CONSTRUCTION MATERIAL SUCH AS GOLDEN MOSAICS WHICH IN MYSTICALIZES Dematerialization

SINAN BELONGS TO THESE ARCHITECTS WHO WANT TO SHOW THE MATERIAL IN THE RAYS OF LIGHT, PERCEPTION OF THE MATERIAL AS TRUE AND AS REAL AS POSSIBLE. ONE SPATIAL ROOM SURROUNDED AND MADE BY VISIBLE TRUE MATERIAL AND COLOR. HAGIA SOPHIA IS DIFFERENTIATING THE SPACE THE LIGHT AND ITS MATERIALS ALTHOUGH WE CAN PERCEIVE THE WHOLE SPACE BUT A SPACE DIVIDED AND COMPOSED TO PARTS.

FILTER

→ SINAN'S CONCEPTION OF THE SPACE BARBACHIN AND ONE SPACE IN ITS TOTALITY UNDER IT.

ENCLOSURE

BOOK RESPIN

SEHZADE: THE FIRST SUNNIC MOSQUE, SINAN

SEP18/99

LAYERS GENERATE MOVEMENT

IT HAS MORE SPACES ALL WITH ADVANTAGE WATER, BUT ONE HAS WATER FLOWING IN A CHANNEL, AND IS FULL OF BEAUTIFUL MYRTLES, AND ORANGE TREES IN THE MIDDLE, IN WHICH THERE IS A LOGGIA... THE WATER FLOWS EVERYWHERE IN THE PALACE AND ALSO IN THE ROOMS WHEN YOU WANT... IN A COMPLETELY GREEN PLACE, MADE INTO A MEADOW (PATIO) WITH A FEW BEAUTIFUL TREES, THE WATER IS MADE TO COME

→ IN SUCH A WAY THAT IN A FEW CHANNELS IN THE MEADOW YOU HEAR THE WATER DROPS UNDER YOUR FEET AND IT BATHS EVERYTHING UNWANTED

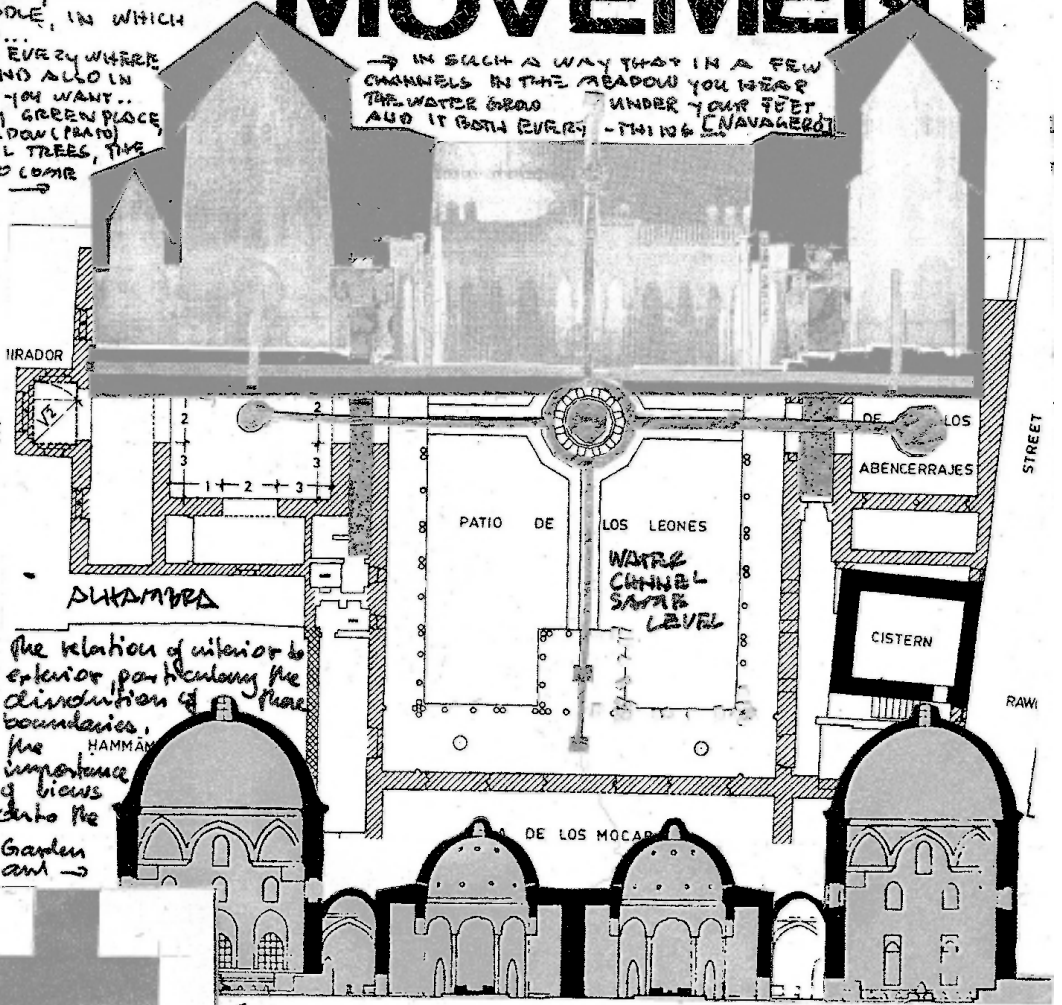
HAVING WALKED THROUGH A DARK AND NARROW TUNNEL OF THE SUKAMBA, I SUDDENLY EMERGED INTO THE SERENE, SILENT AND SOLITARY COURT OF THE MYRTLES.... I HAD THE FEELING THAT

IT ENCLOSED WHAT A PERFECT GARDEN, NO MATTER ITS SIZE SHOULD ENCLOSE: NOTHING LESS THAN THE UNIVERSE."

LUIS BARROGAN

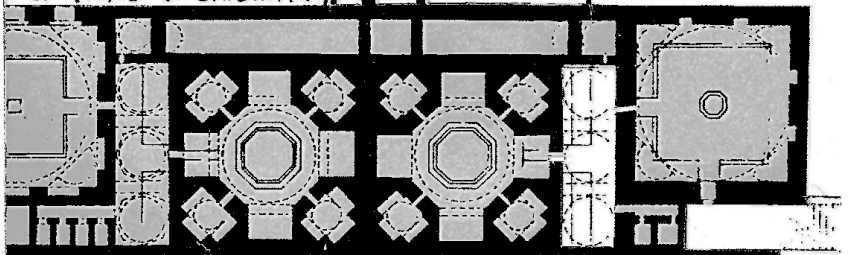
"SO I BELIEVE THAT ARCHITECTS HAVE TO DESIGN GARDENS TO BE USED LIKE THE HOUSES THEY BUILD."

ALHAMBRA



The relation of interior to exterior particularly the circulation of boundaries, the importance of views into the garden and →

I BELIEVE THAT ALL LAYERS SHOULD BE USED AND TO BECOME AN AWARENESS THAT THE HOUSE ALTHOUGH MADE OF DIFFERENT LAYERS IS ONE ENTITY → landscape beyond, the presence of reflecting pools, courtyards, and loggias.



SWAN, ISTANBUL, BATH

approaching architecture

I gave myself an assignment: to draw a picture of myself. To begin I want to say that architecture is not my life, but I love it and I believe in the joy of making a room or of discovering a detail. Louis Kahn described joy as the force of creativity. There is no architecture without vision and to borrow the words of Le Corbusier that there is no art without passion.

Visions are to become true. In the hopes of our dreams, we find the will to move to the future, the fulfillment of our dreams renders us with satisfaction, joy, and the sweetness of life.

I asked myself where I want to start after graduation with my Master's degree. My goal is to work on a project from the very beginning to its final completion. I enjoy finding ideas and transforming these to more technical and detailed solutions.

In order to achieve my dream and to become a good architect, I find it important to believe in visions and to put all energy and passion in the various stages of creation. Therefore, it is important to experience all kinds of work that architects need to do: These include close contact with the client and the supervising of the construction site, as well as the implementation of ideas and concepts through designing, constructing, detailing and managing.

Life encompasses many things including the ties to my parents within my German and Italian heritage. Cooking with friends, love, faith and becoming aware the richness and opportunity are always present.

Roberto Gardoni
Dec 1999

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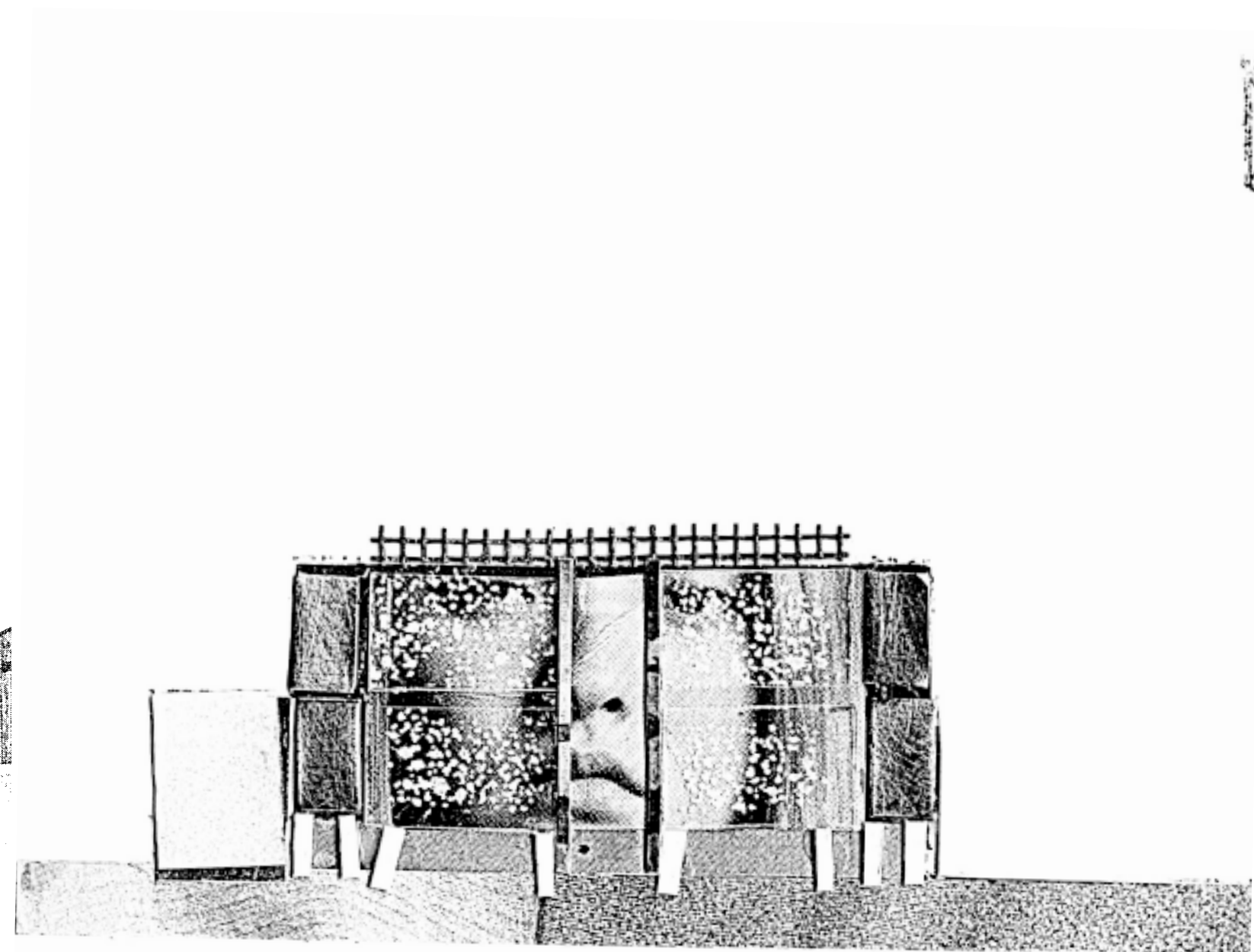
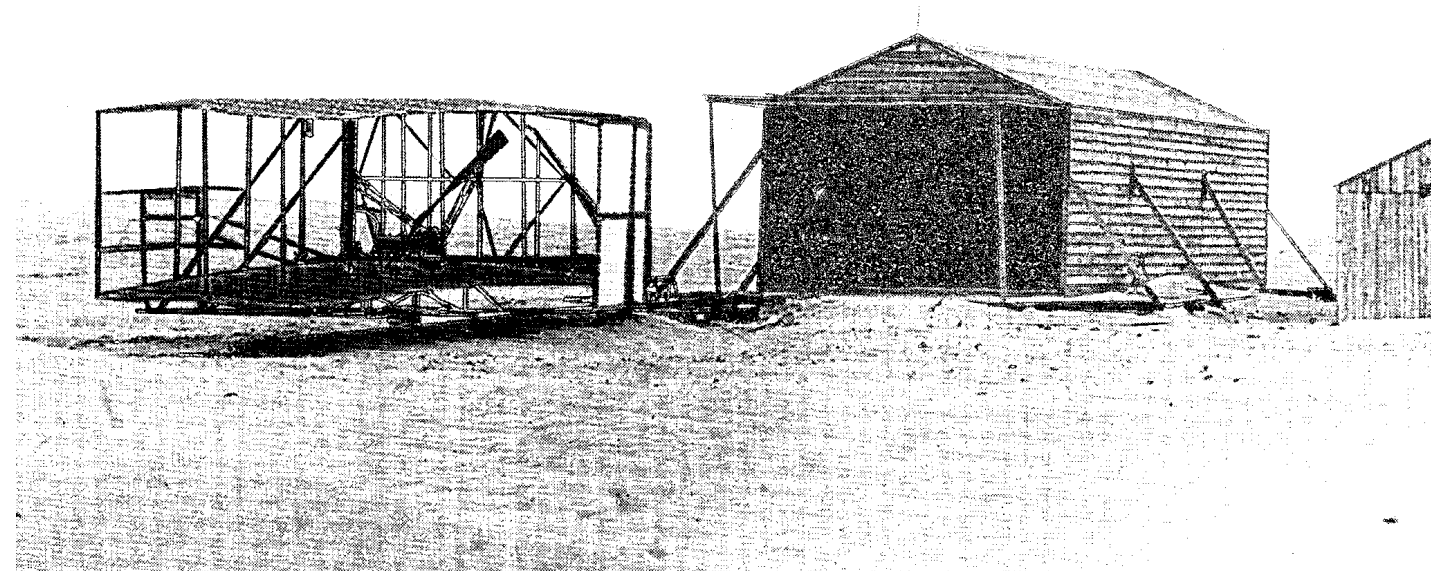
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Bibliography

approaching architecture



Vitae

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Carpentry

The book is dedicated to my parents, my sister, my brother and my grandma without their love and support it would have never been written.
Thank you for believing in me.