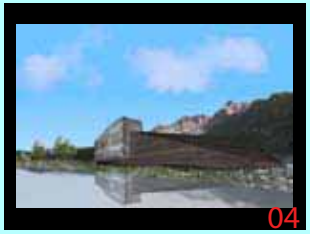
SØREN ROBERT LUND
arkitekter

Siberia
-The tusk and the stone-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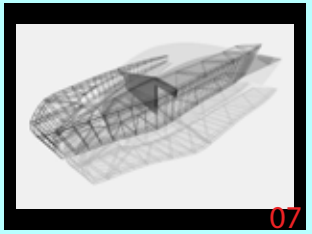
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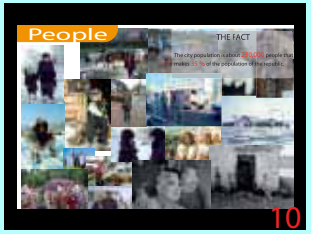

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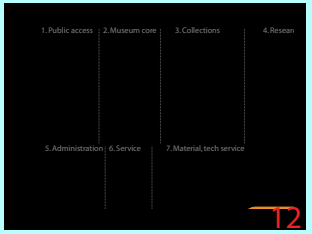

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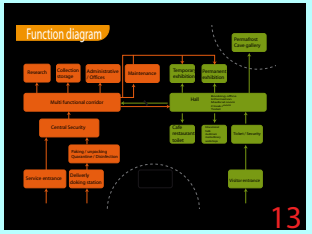

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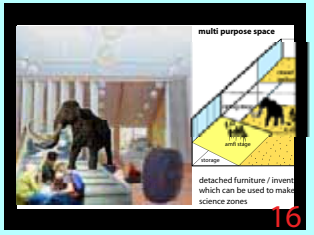

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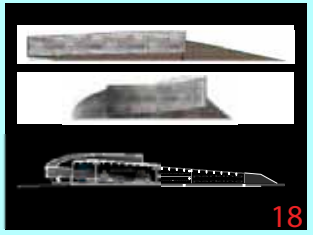
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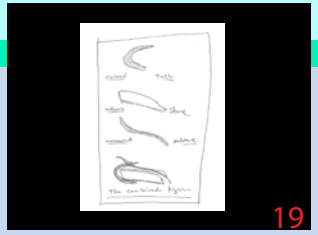
Mammoth museum

Building 5,300 sqm
Budget: 100 mio USD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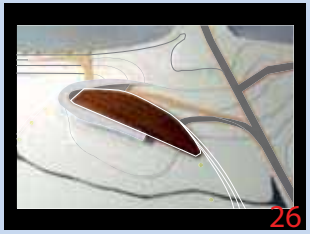
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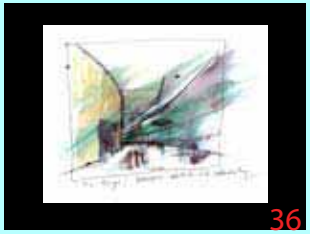
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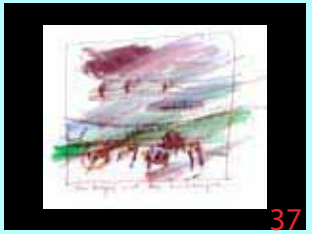
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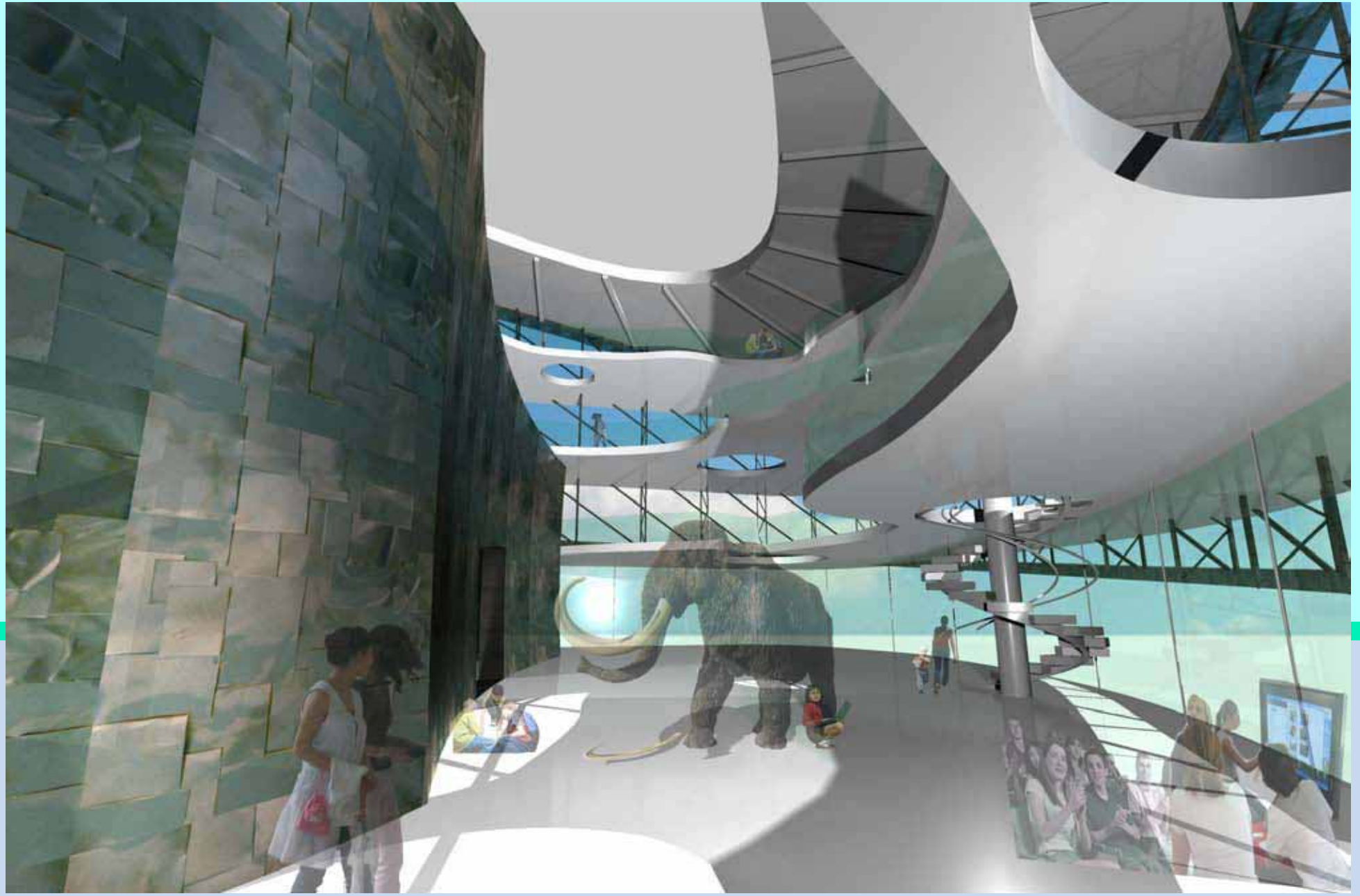
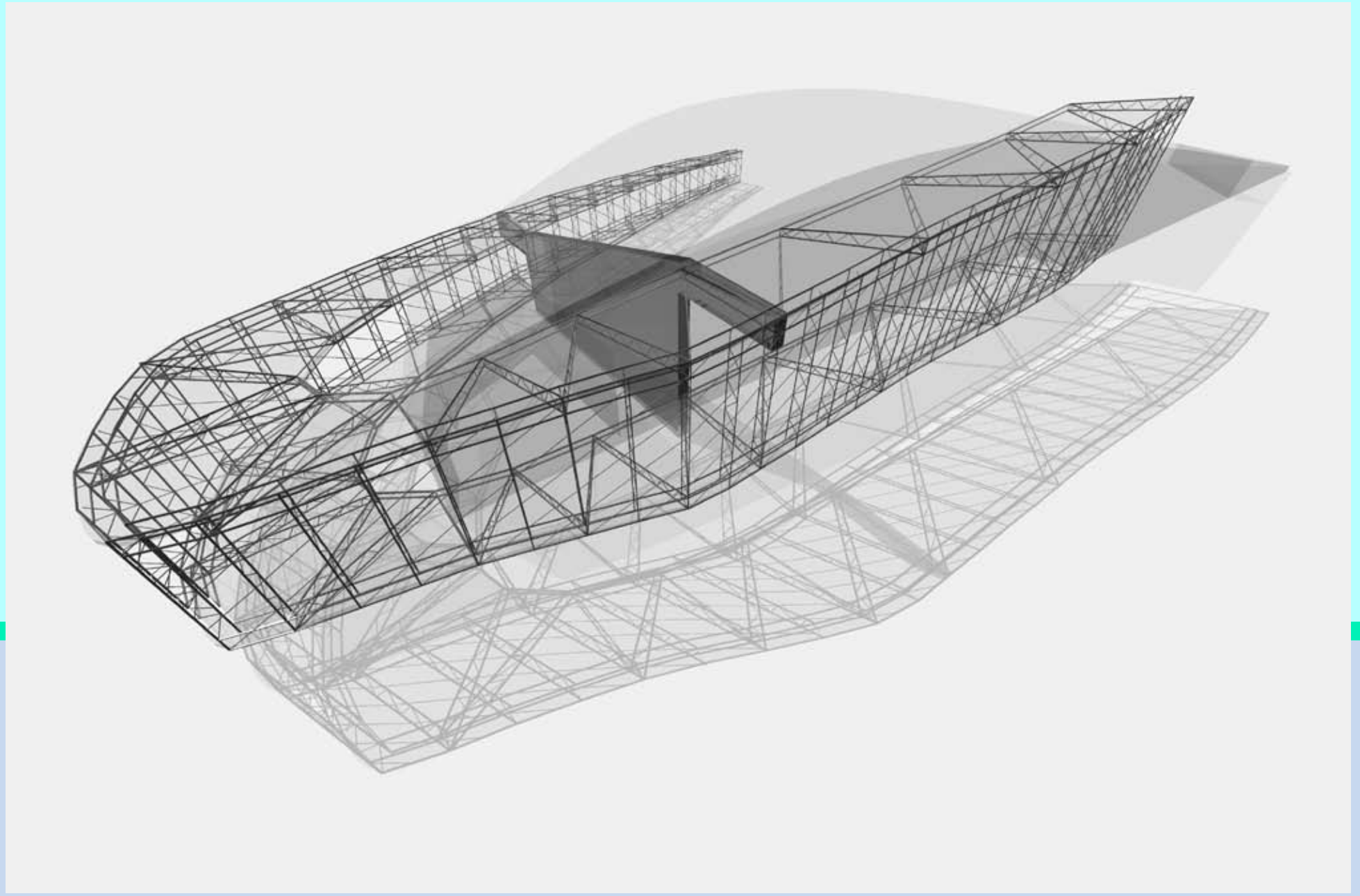
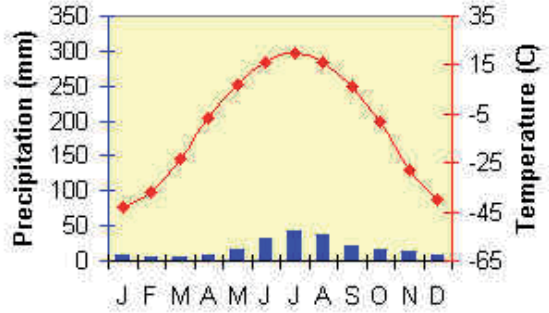
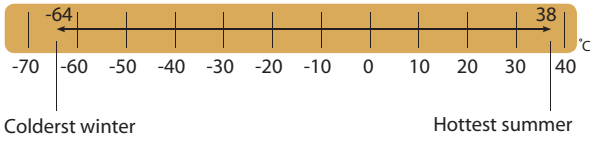


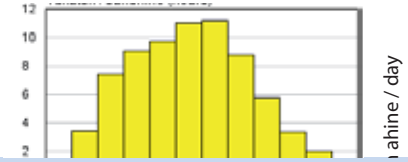


Buildings

Climate


Precipitation (mm)
350
300
250
200
150
100
50
0
35
15
-5
-25
-45
-65
Temperature (C)
J F M A M J J A S O N D


-64
38
°C
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40
Colderst winter
Hottest summer


12
10
8
6
4
ahine / day

People





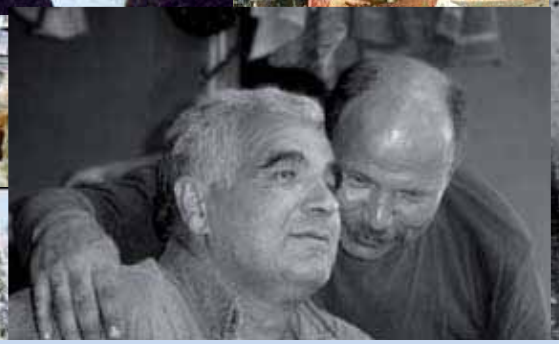













THE FACT

The city population is about 230,000 people that makes 35 % of the population of the republic.

Urban-Street

THE FACT

The six hours' flight separate Yakutsk and Moscow

1. Public access

1111 car
1111 Coach
1121 Hall
1122 Booking office
1123 Offices
1131 Locker room
1132 Rest room
1133 Sick room
1211 Box office
1212 Books
1213 Multimedia
1214 Other derived products
1215 Office
1216 Storage
1221 Bar
1222 Hall
1224 Storage
1226 Refuse chute
1227 Office
1228 Locker room
1229 Personnel rest room
123 Terrace
13 Scientific knowlwge zone

2. Museum core

211 Permanent
212 Temporary
213 Public rest rooms
221 Workshop
222 Office
223 Preparation works, storage
224 Public rest room
231 Hall
232 Lighting box
234 Office
235 Storage
236 Staff and lecturers rest room
237 Box 1
238 Box 2
241 Hall (50 persons)
242 Storage
251 Director
252 Secretary
261 Consultation hall
262 Offices
263 Storage preparation room

3. Collections

31 Security
32 Pedestrian entry
331 Delivery plarform
332 Douuble door
333 Storage, pasking handling zone
34 Dry garbage
35 Multifunctional corridor (transport serviced)
361 Quarantine
362 Disinfection
363 Curator office
364 Administration and technical personnel office
365 Secretary
366 Staff rest rooms
371 Wet artefacts + doucle door
372 Dry artefacts + double door
373 Osteology-ivory + double door
374 Ethmology-ivory + double door
377 Stored artefacts to external exhibitions
378 Cold rooms
38 Artefacts and excavation articles

4. Resear

411 research managing ofl
412 Researcher Pal 1
413 Researcher Pal 2
414 Researcher Pal 3
415 Researcher Pal 4
416 Straigraphy mapping a
417 Paleogenetic 1
418 Paleogenetic 2
421 Analysis laboratory 1
422 Analysis laboratory 2
423 Analysis laboratory 3
424 research laboratory in
425 Equipment storage ro
426 Trainee office 1
427 Trainee office 2
428 Guest researchers offi
429 Guest researchers offi
431 Preparation and restor
432 Model workshop
44 Library
45 Secretariant of the Res
461 Excavation equipment
462 Consultation hall 1
463 Consultation hall 2
47 Peosonnel rest room

5. Administration

511 Museum maneger office
512 Secretariat
513 Archives
514 Waiting room
521 Administrator
522 Assistant
5231 Accountant
5232 Cash collector
5241 Secretariat
5242 Translation office
525 Archives
526 Copying room
527 Rest rooms (personnel)

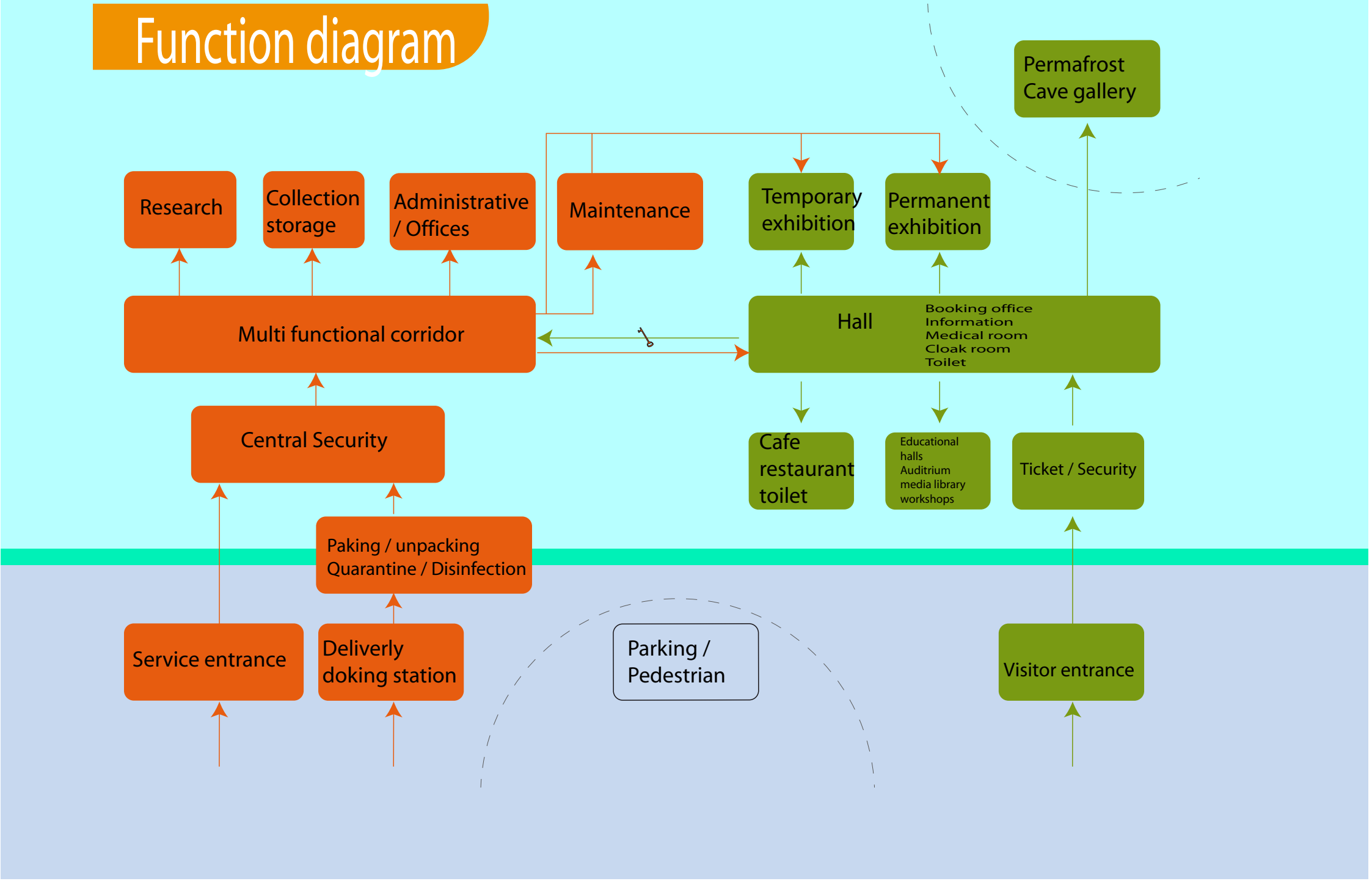
6. Service

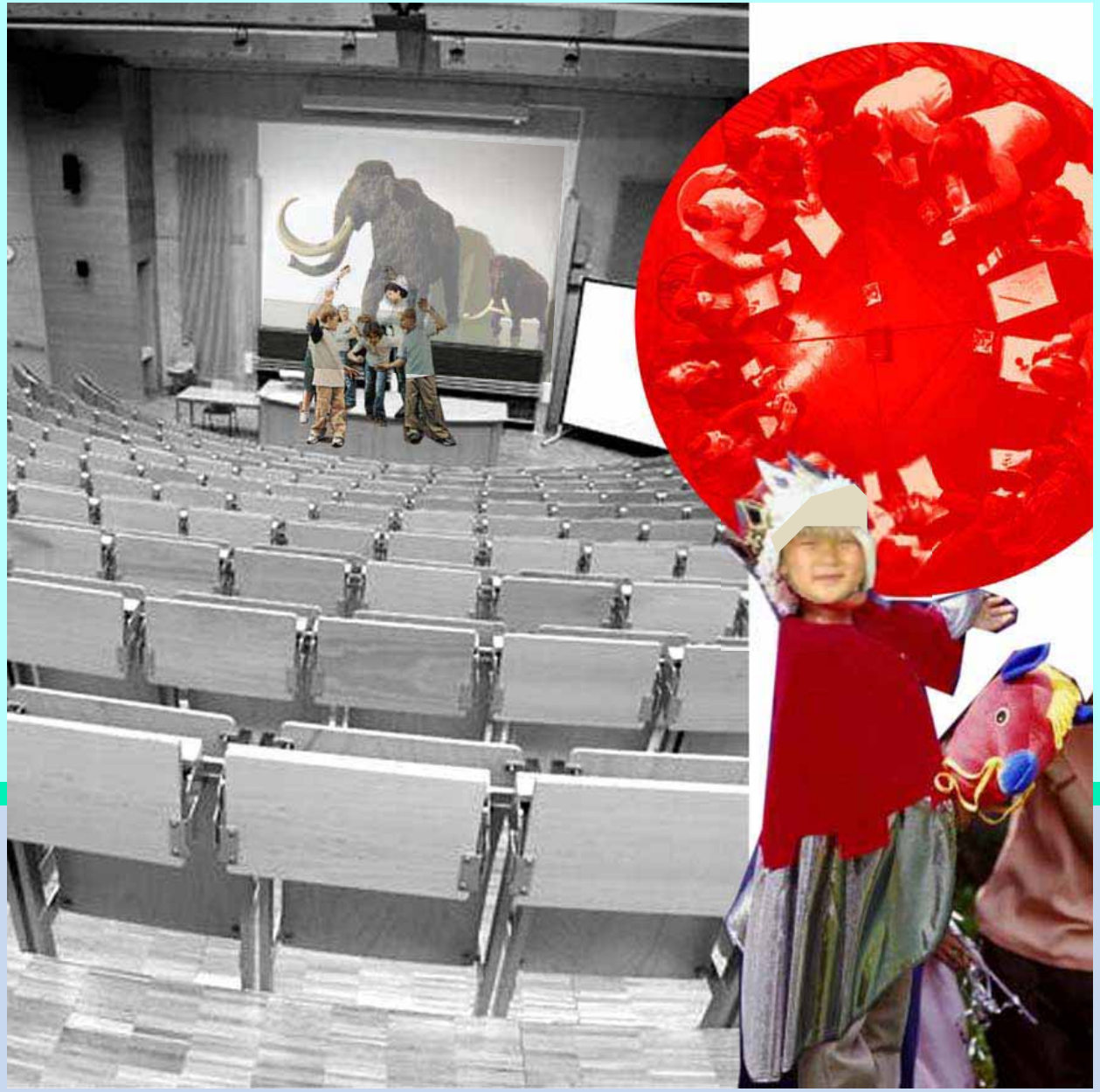
61 Personnel car park
621 Meeting room
622 ?
623 Office supplies
631 Rest and eating hall
632 Rest rooms

7. Material, tech service

711 Exhibitions preparation premises (non dusty works)
712 Exhibitions preparation premises (dusty works)
713 Storage
721 Maintenance workshop
722 Storage 1
723 Storage 2
730 Cleaning
740 Technical management of the building
741 Technical premises
751 Accommodations 1
752 Accommodations 2
761 Studio flat 1
762 Studio flat 2

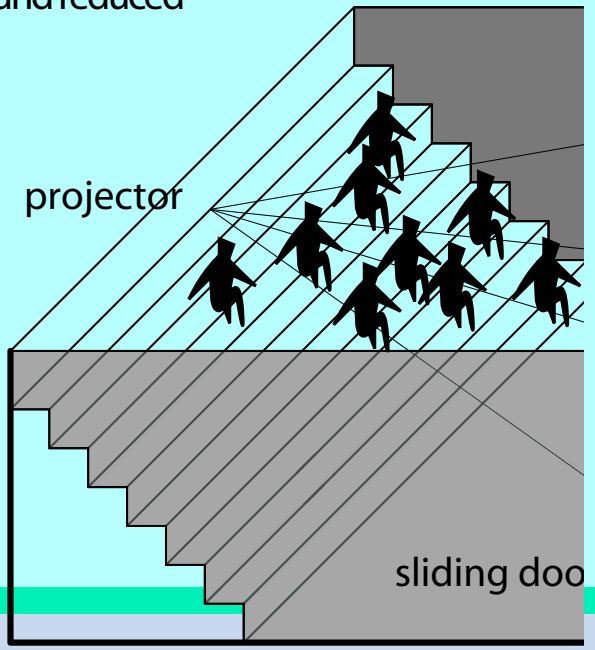
Function diagram





black box / multimedia

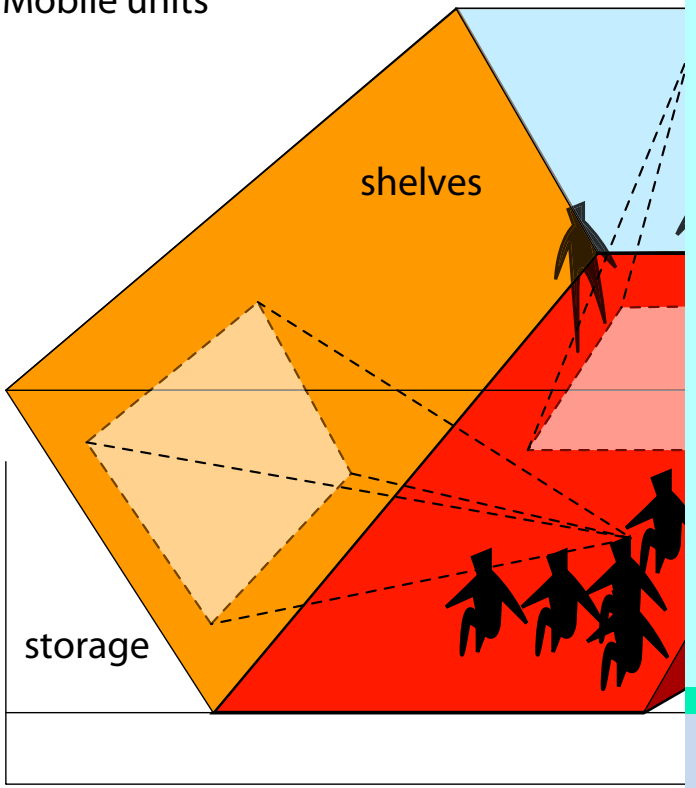
dark space
sound reduced



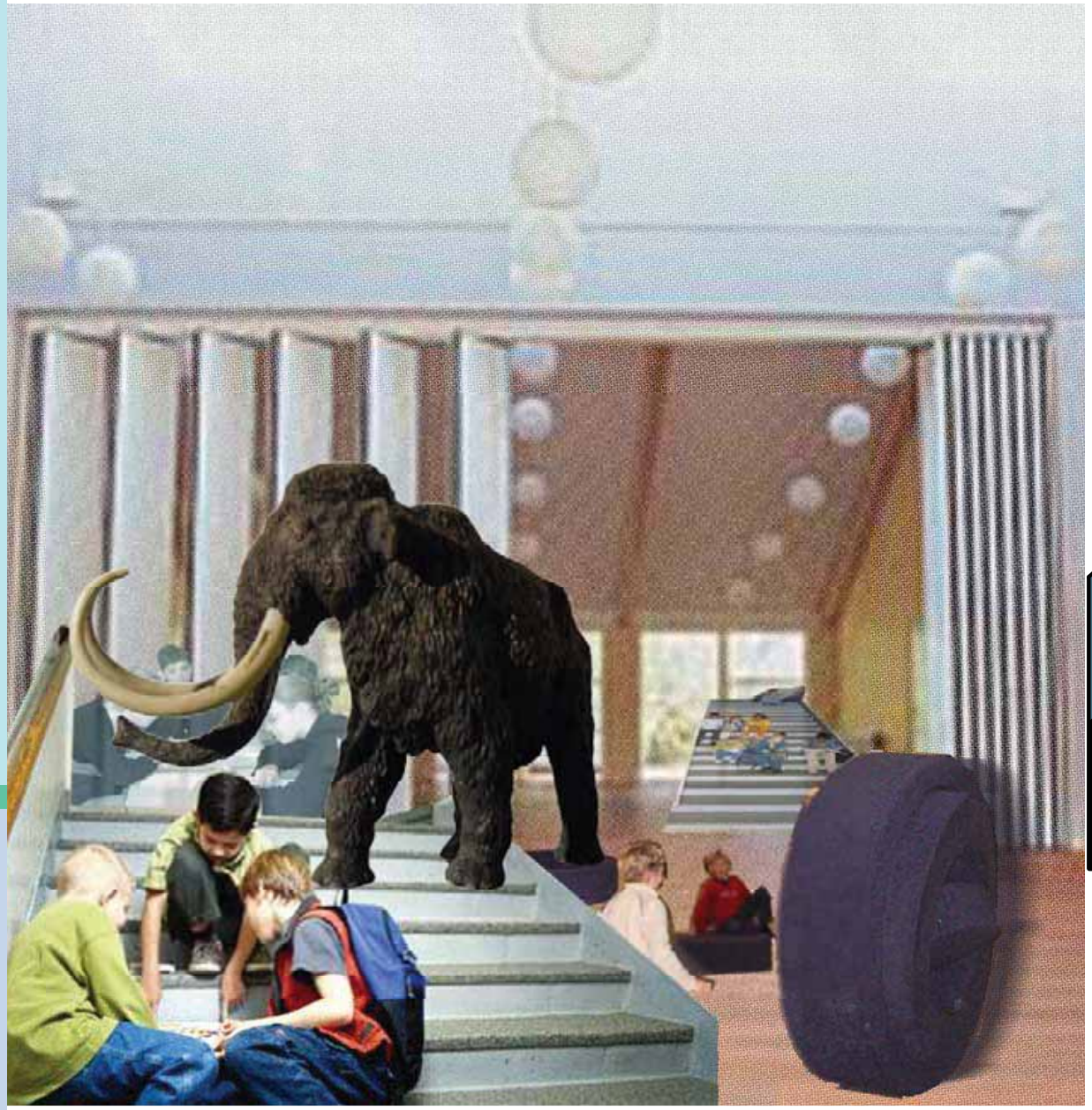
the classical audit
formed into a mul

Mediatek

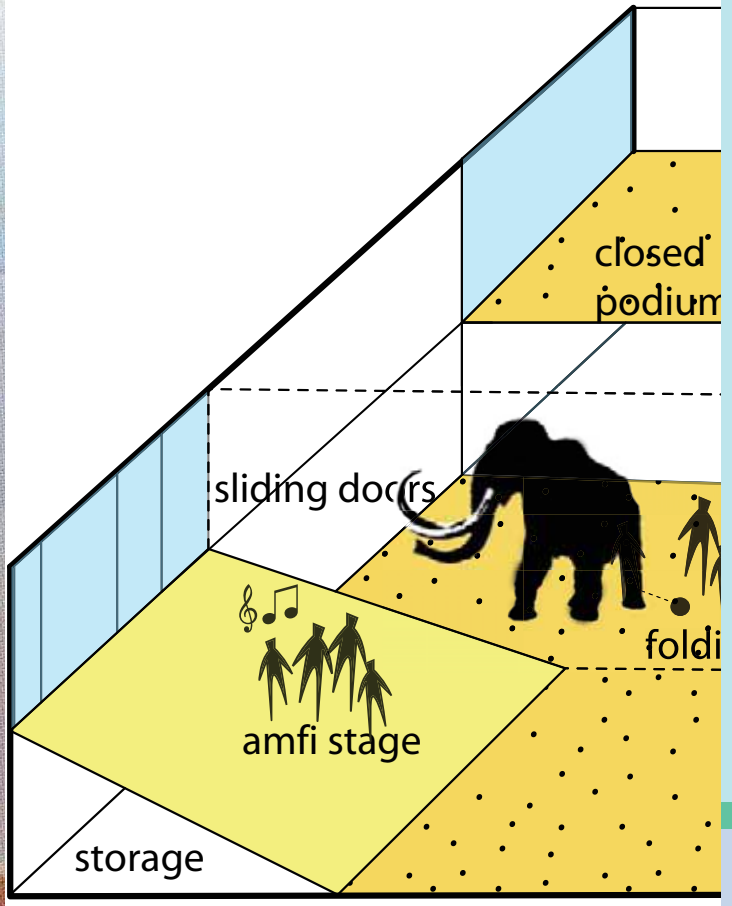
IT-stations
Servers
Mobile units



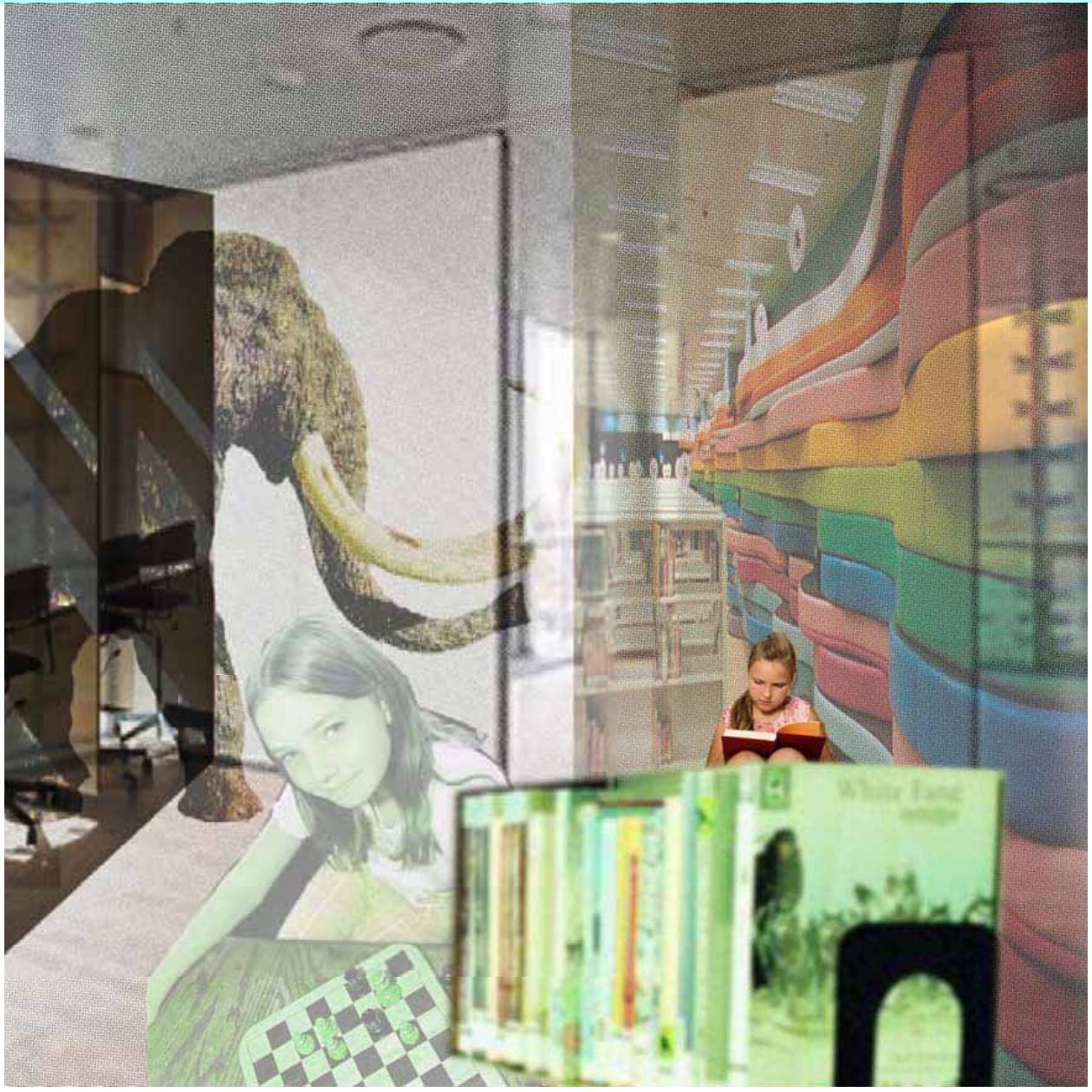
the technology should not
workstations but be an int
part of the social and learn
environment of the museu



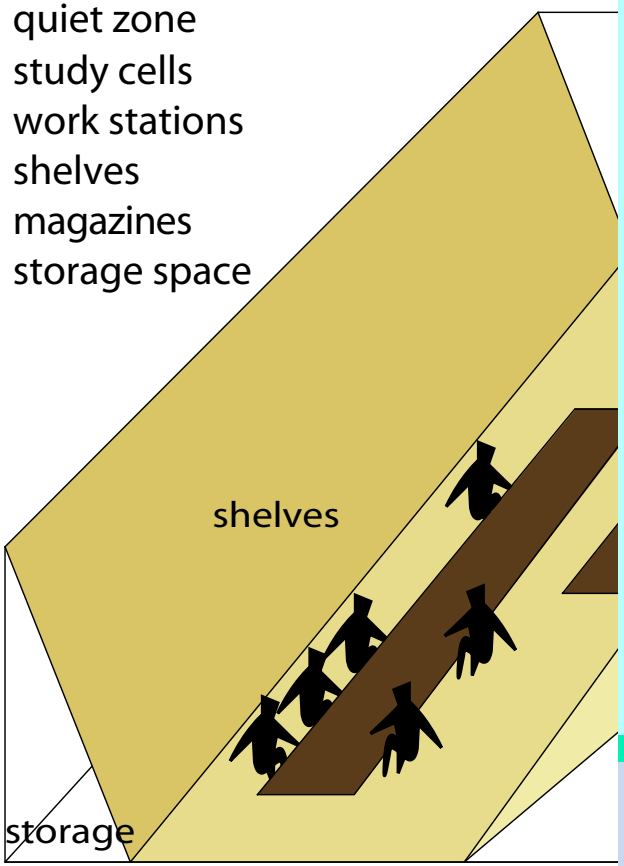
multi purpose space



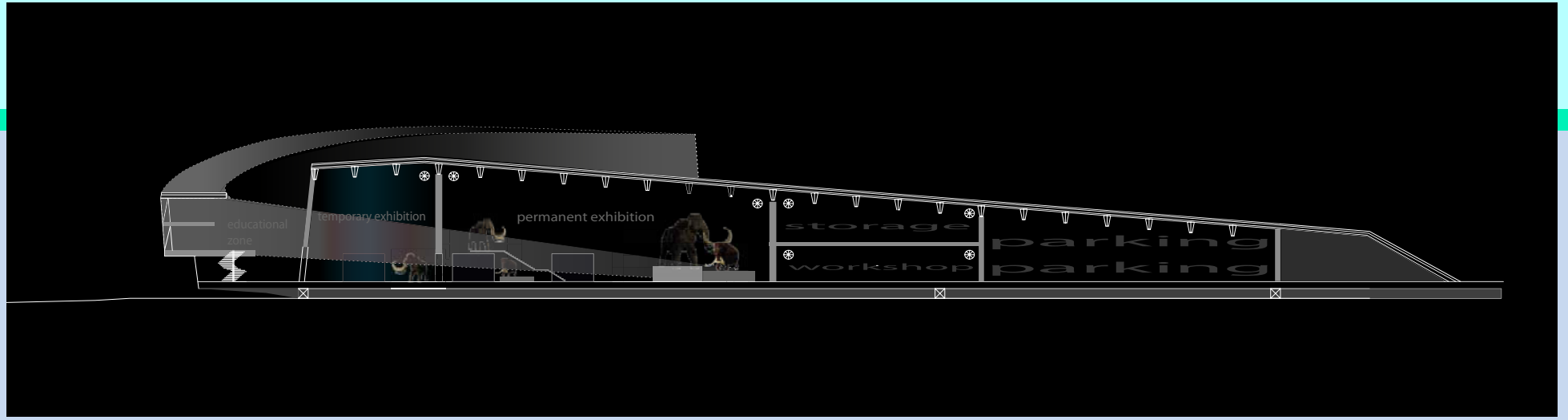
detached furniture / invent
which can be used to make
science zones

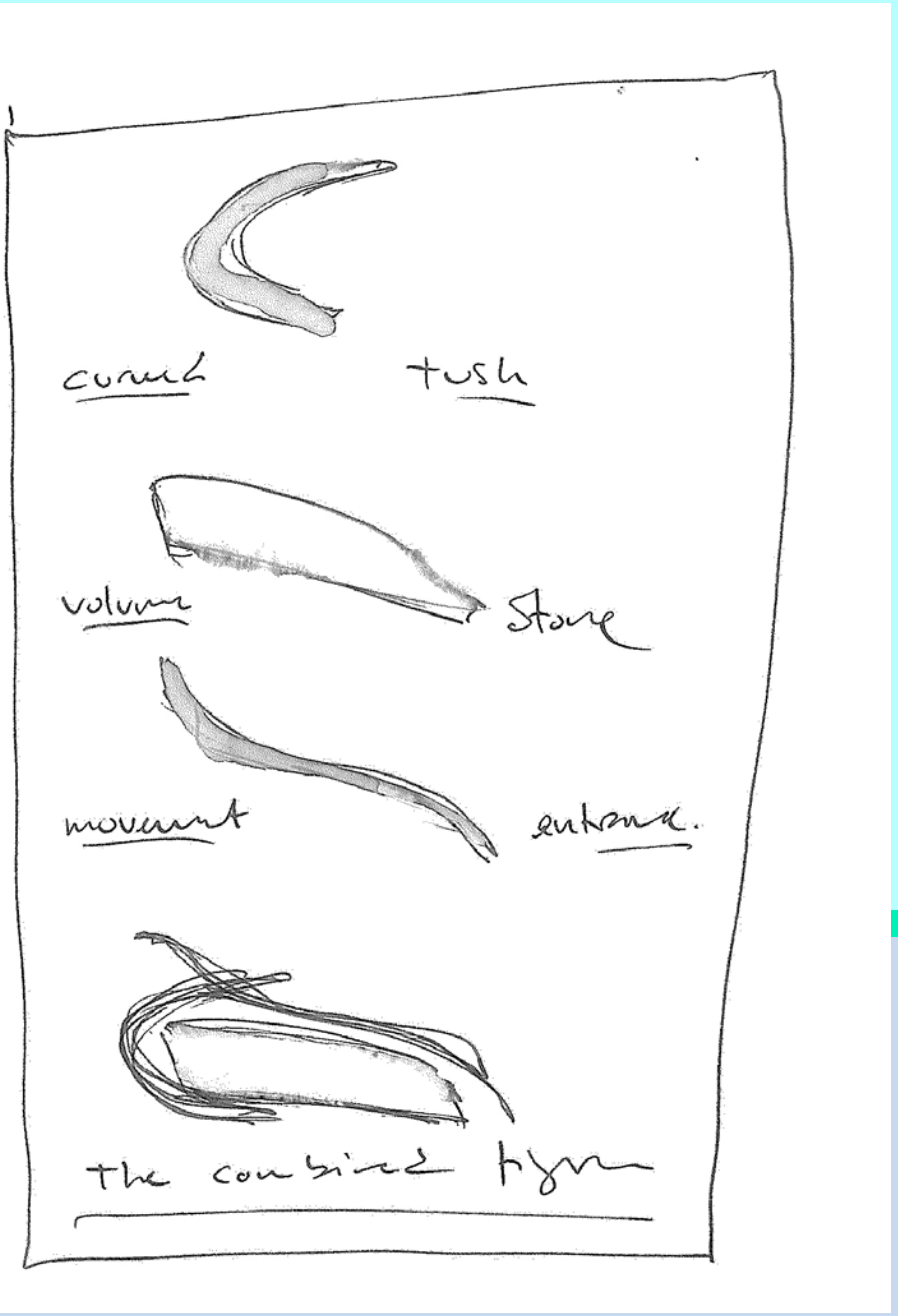


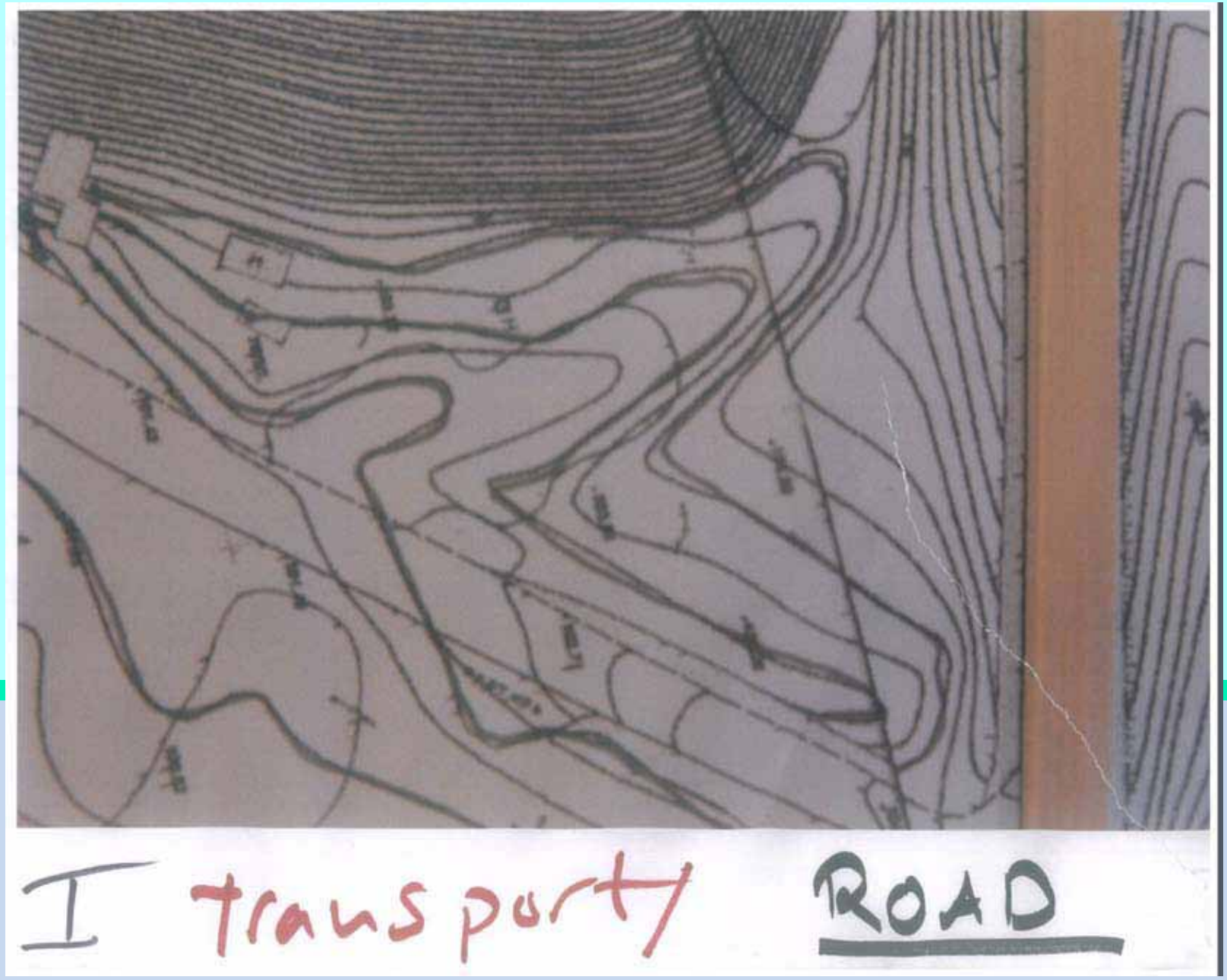
quiet zone
study cells
work stations
shelves
magazines
storage space



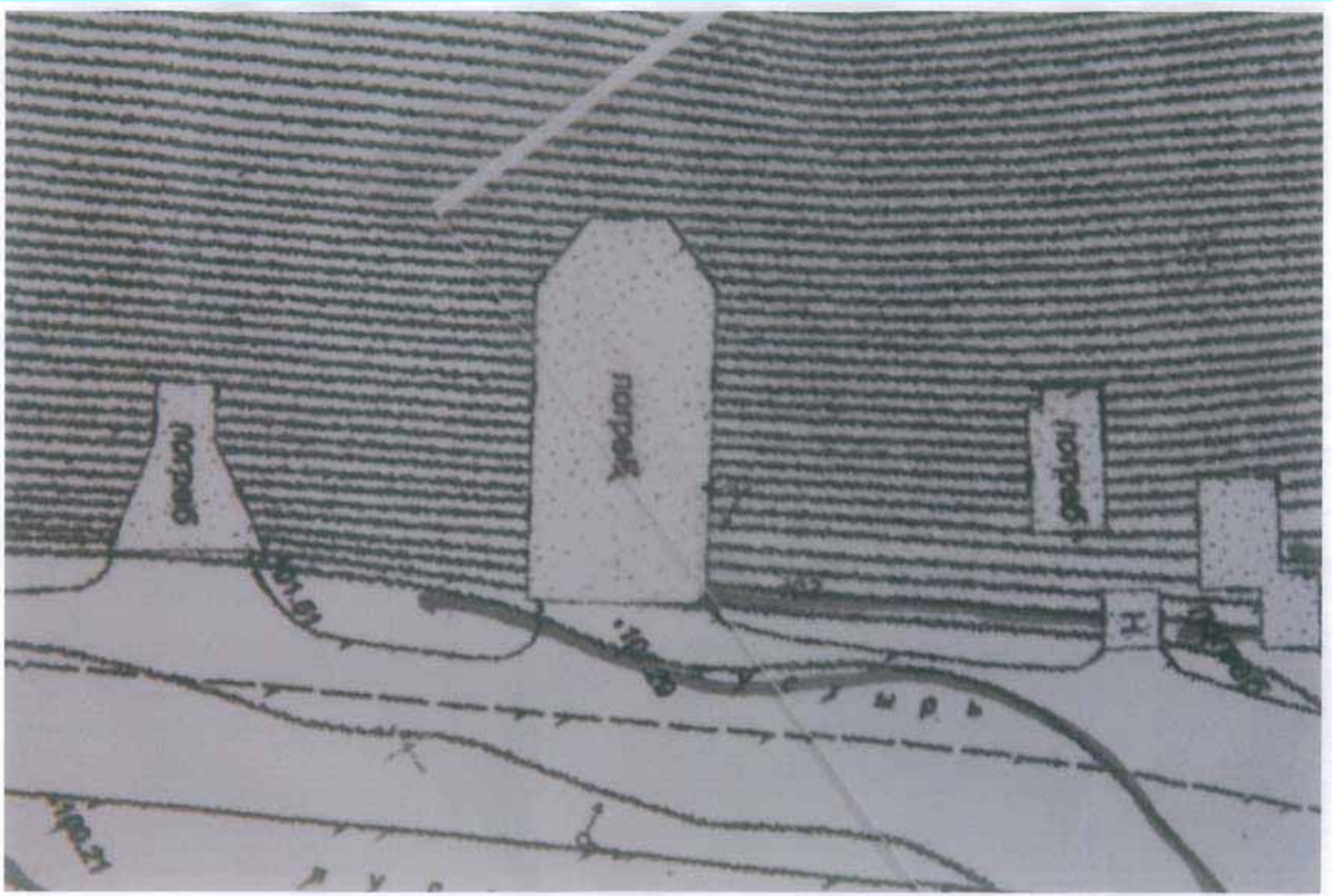
mediatec where learni
scenography is incorp


educational zone
temporary exhibition
permanent exhibition
storage
workshop
parking
parking

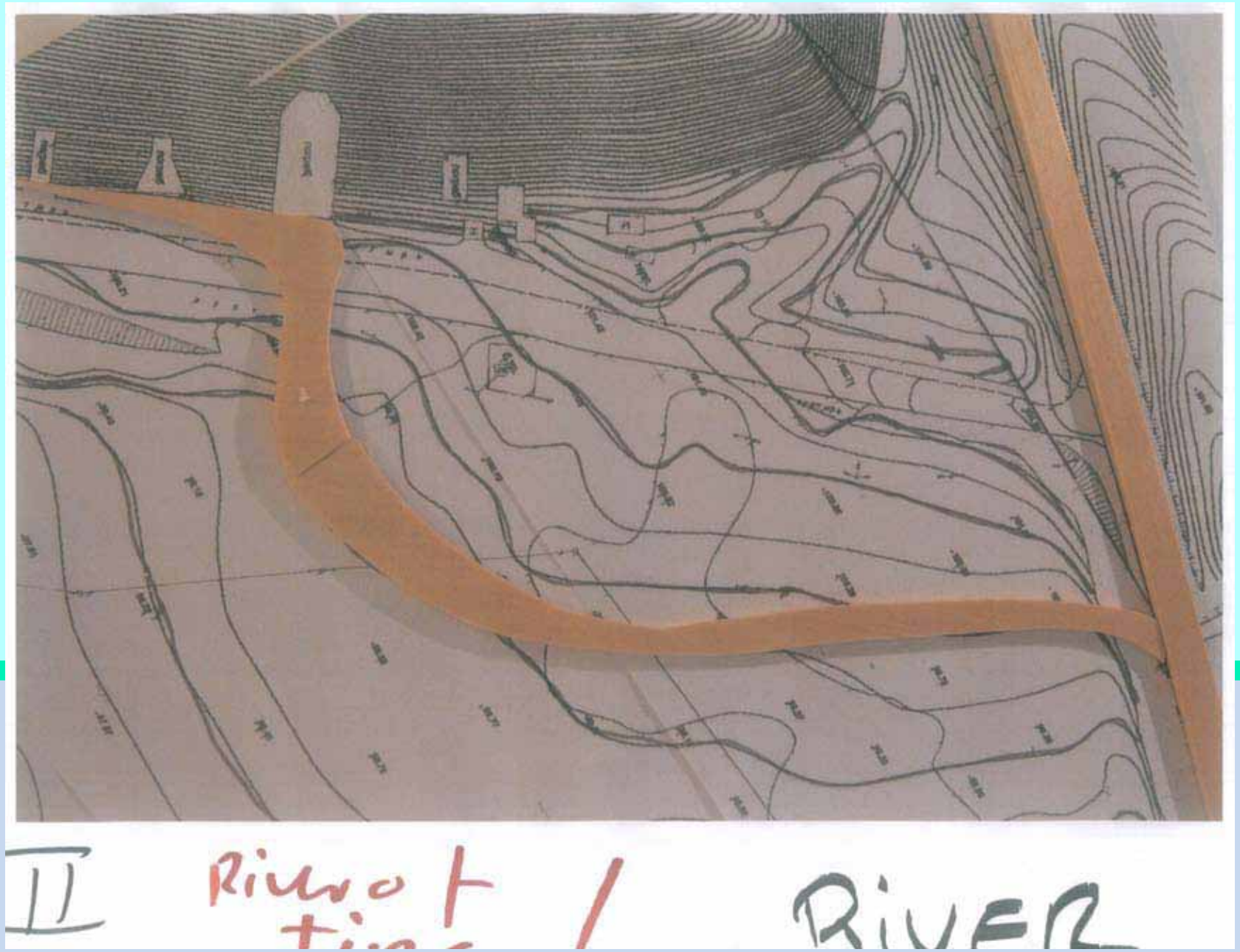

curved
tush
volume
stone
movement
entrance.
the combined hymn

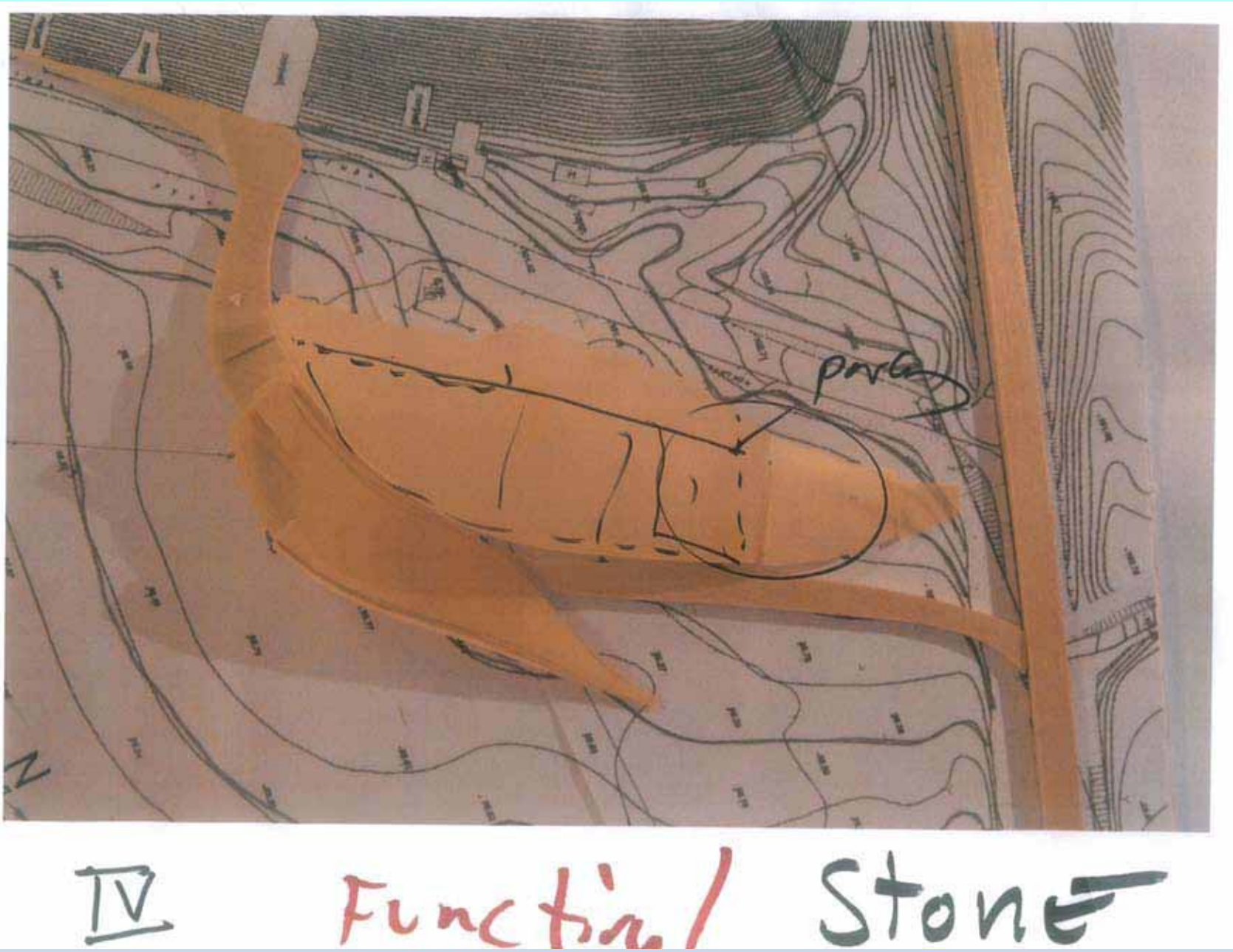


I transport ROAD

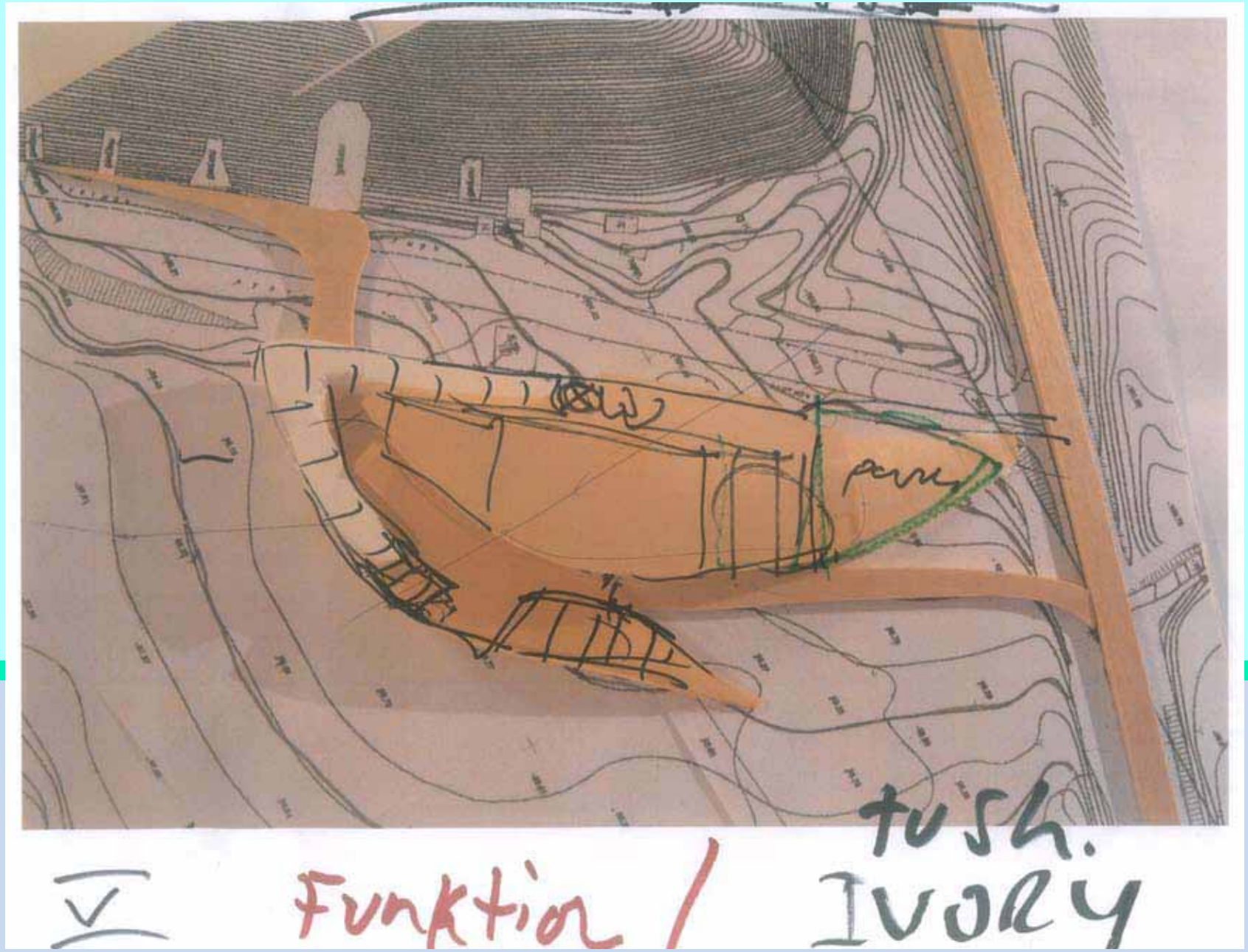


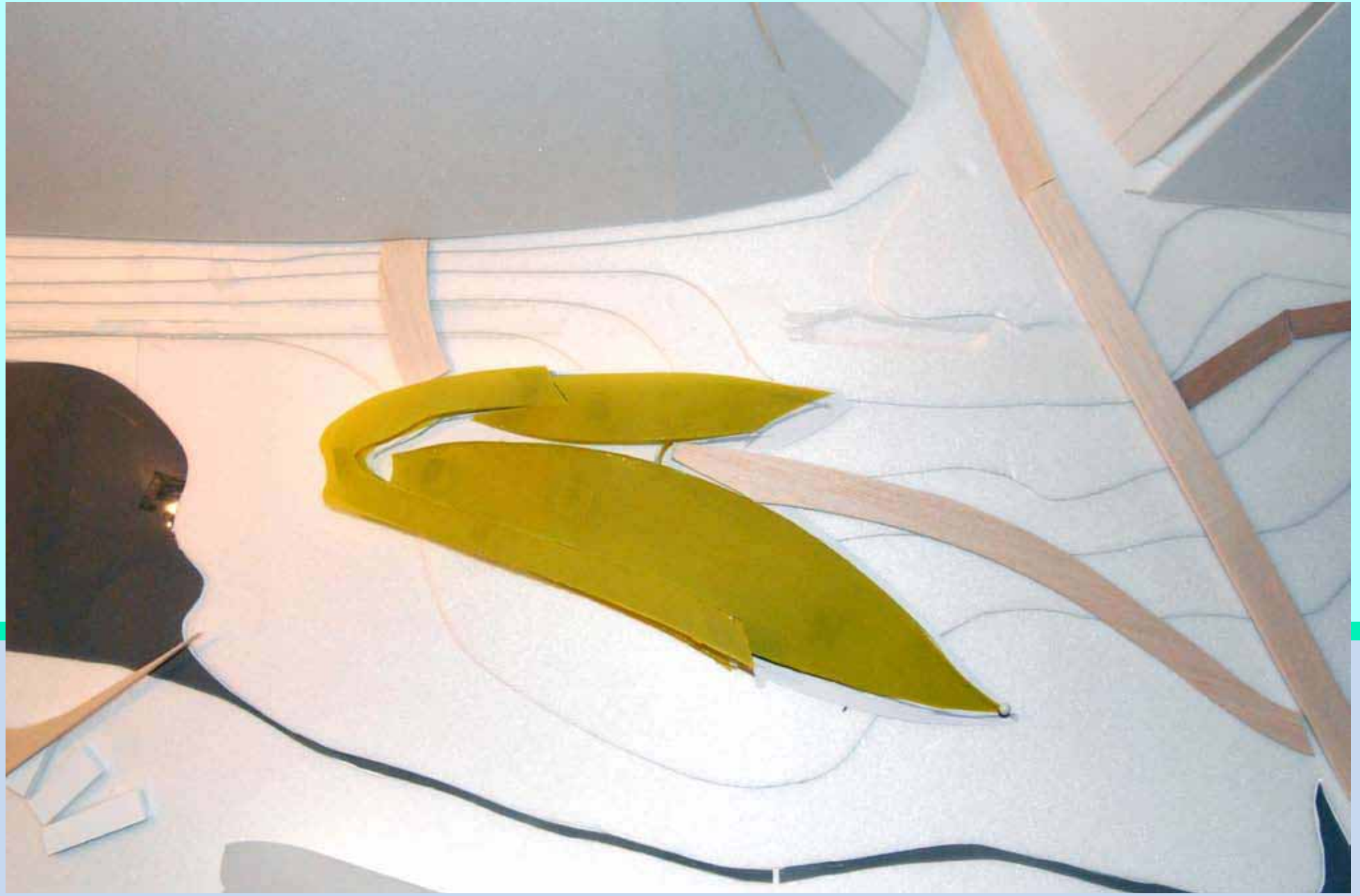
II /EXAUNTION/ CAVE

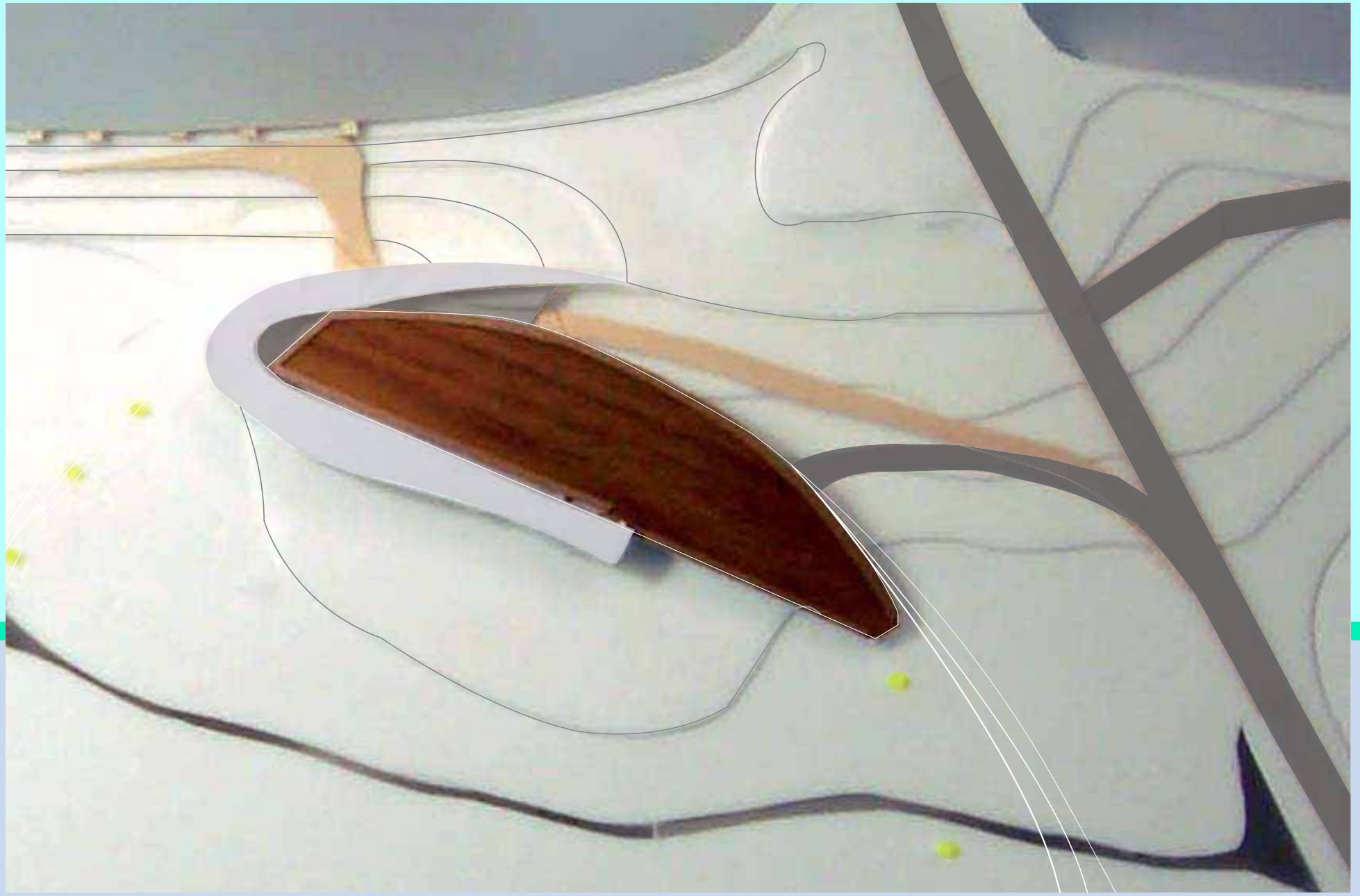

II
RIVER

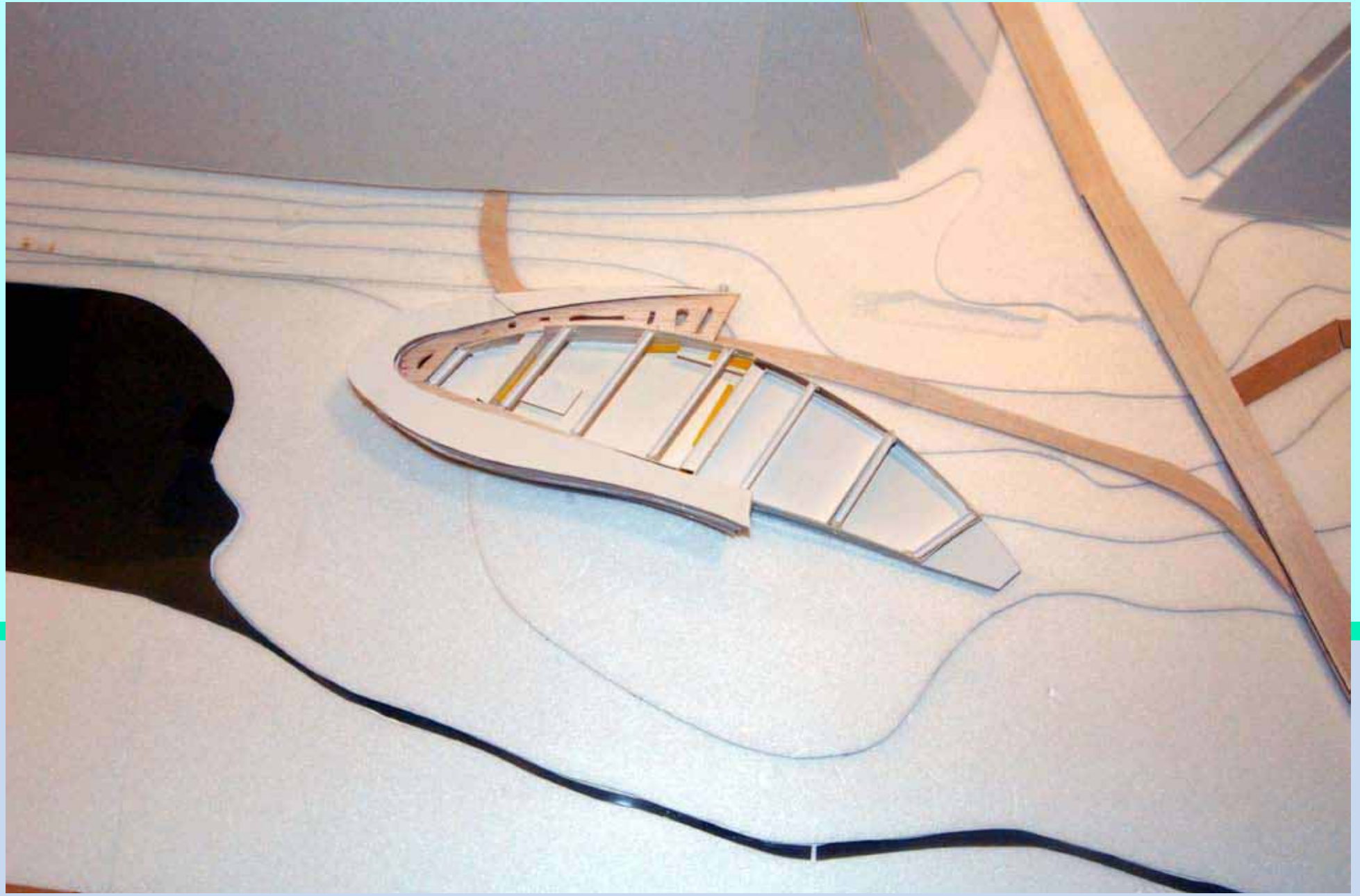


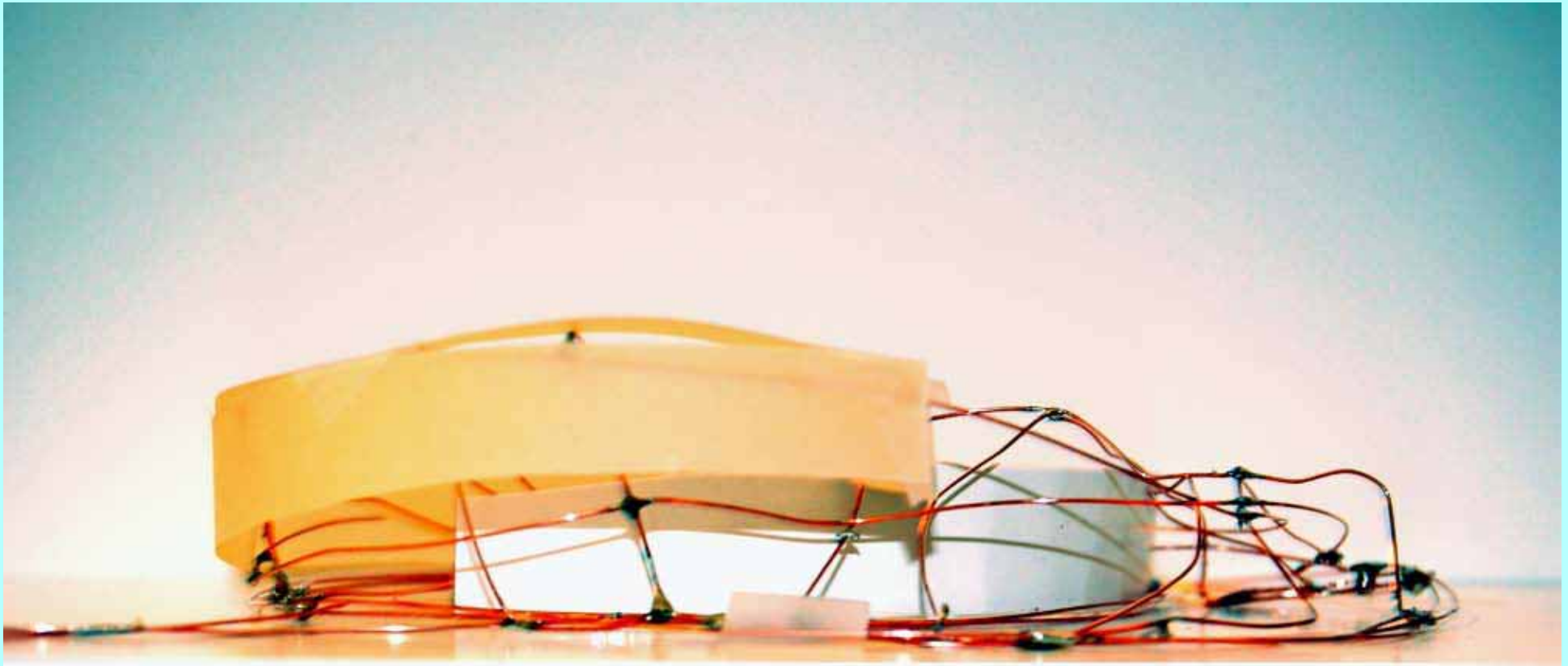
IV

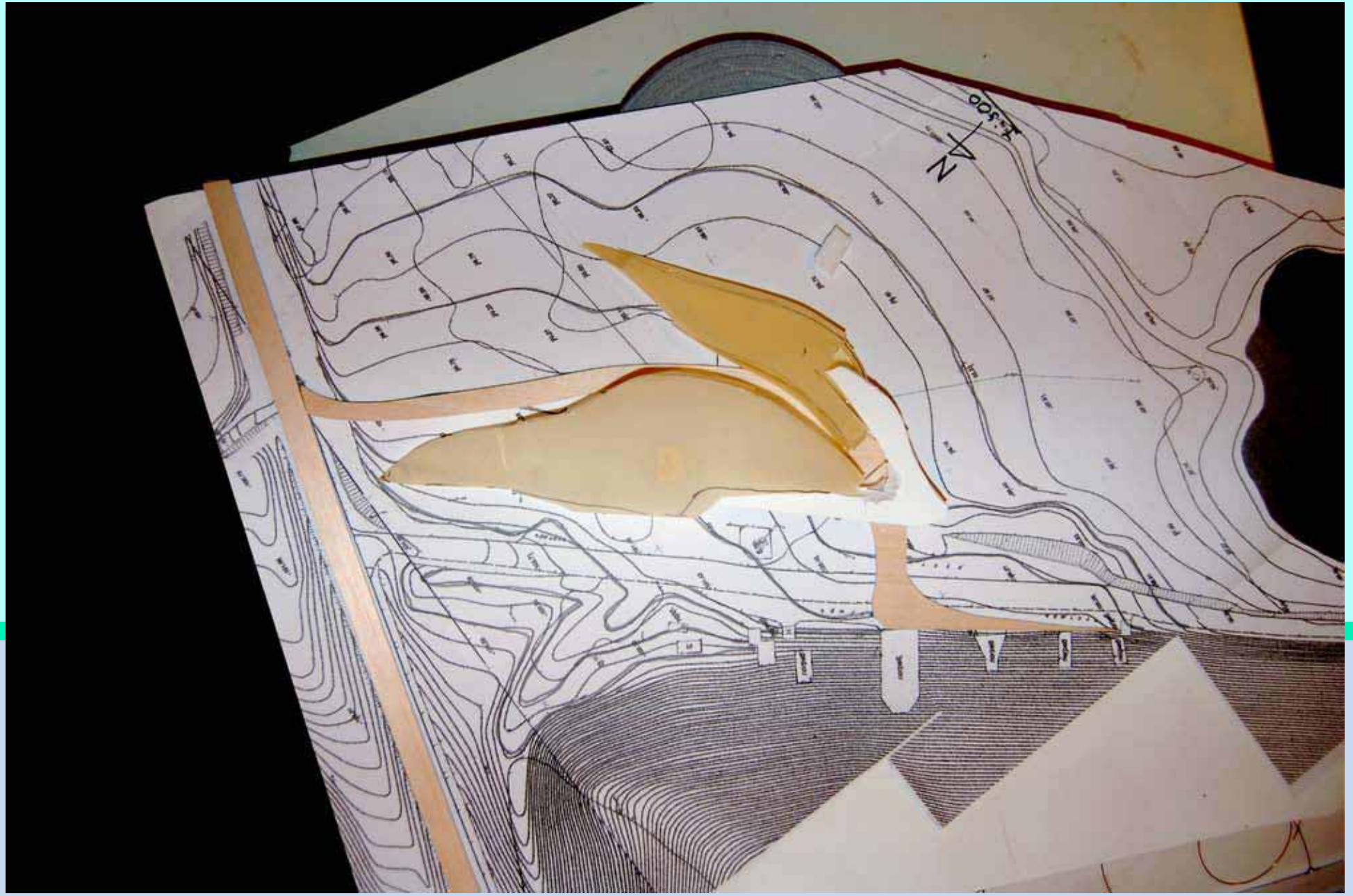

V
Funktion /
tush.
IVORY







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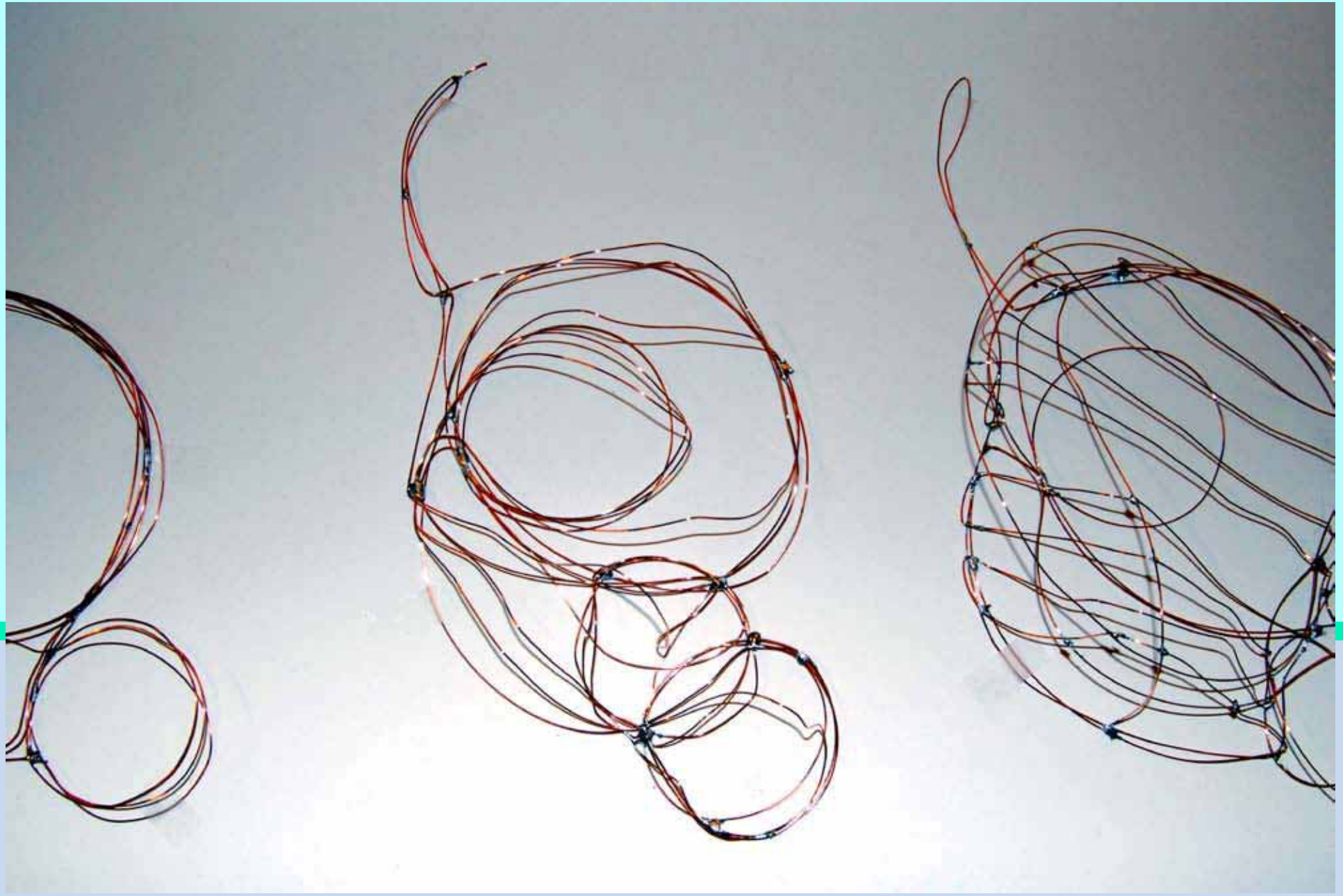
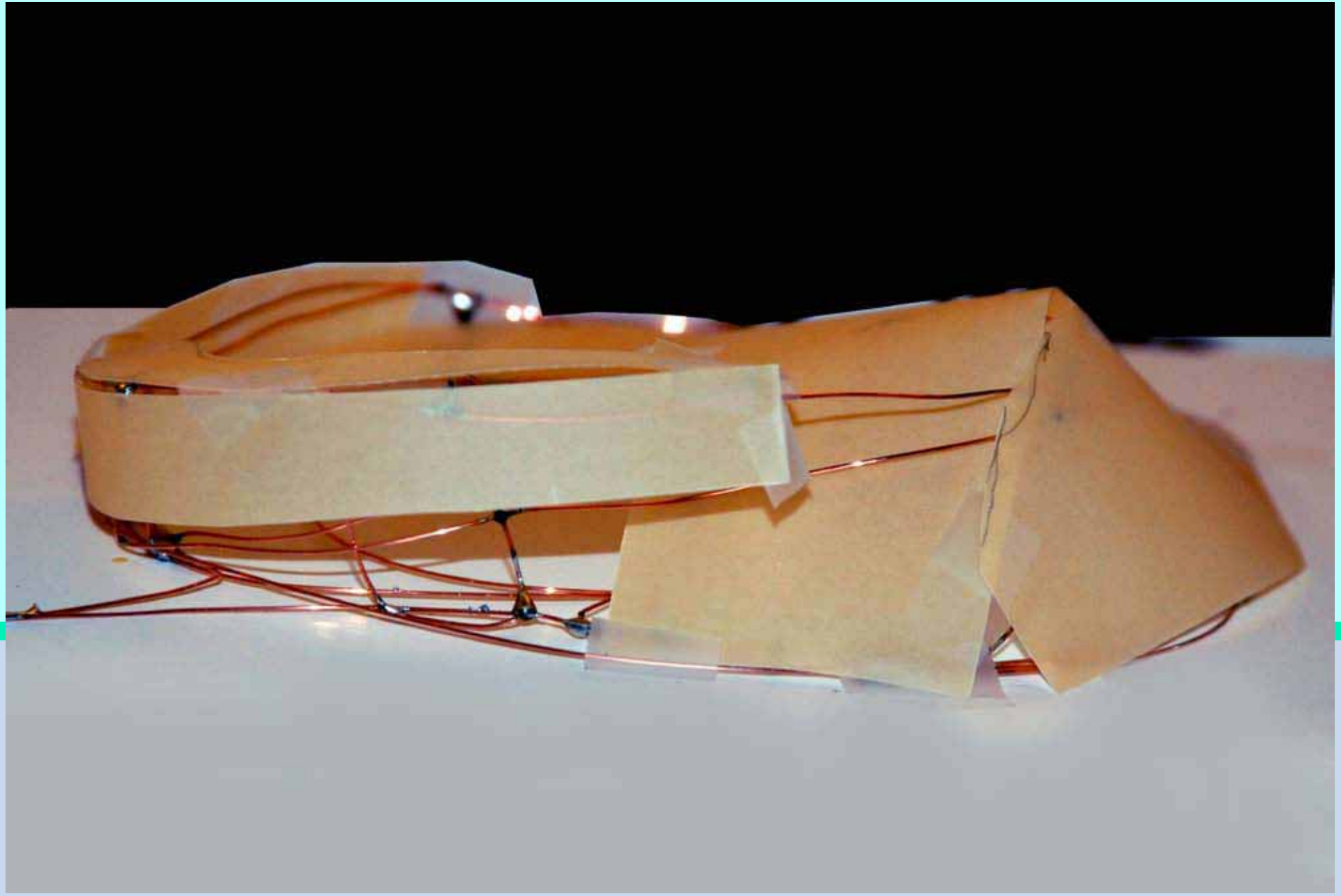
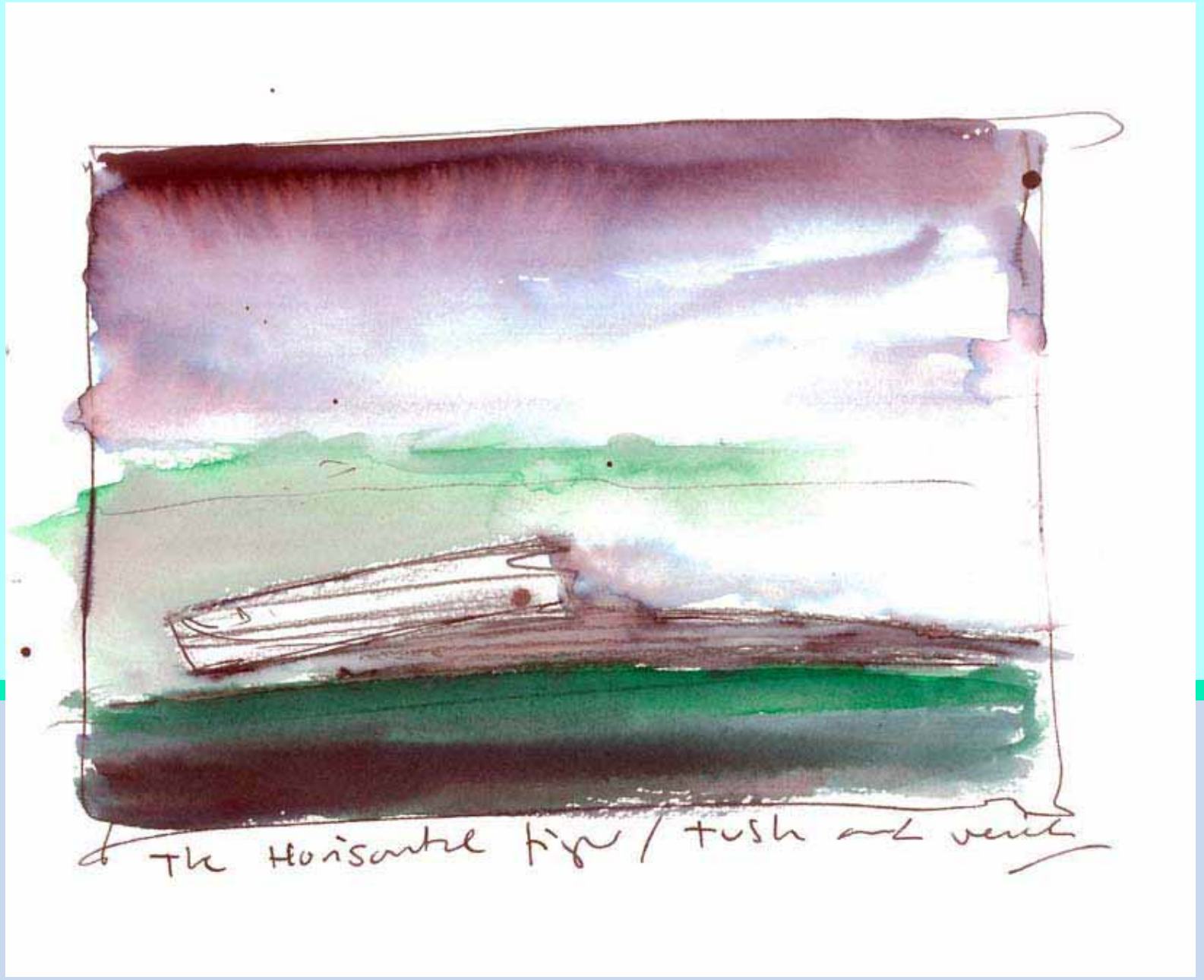
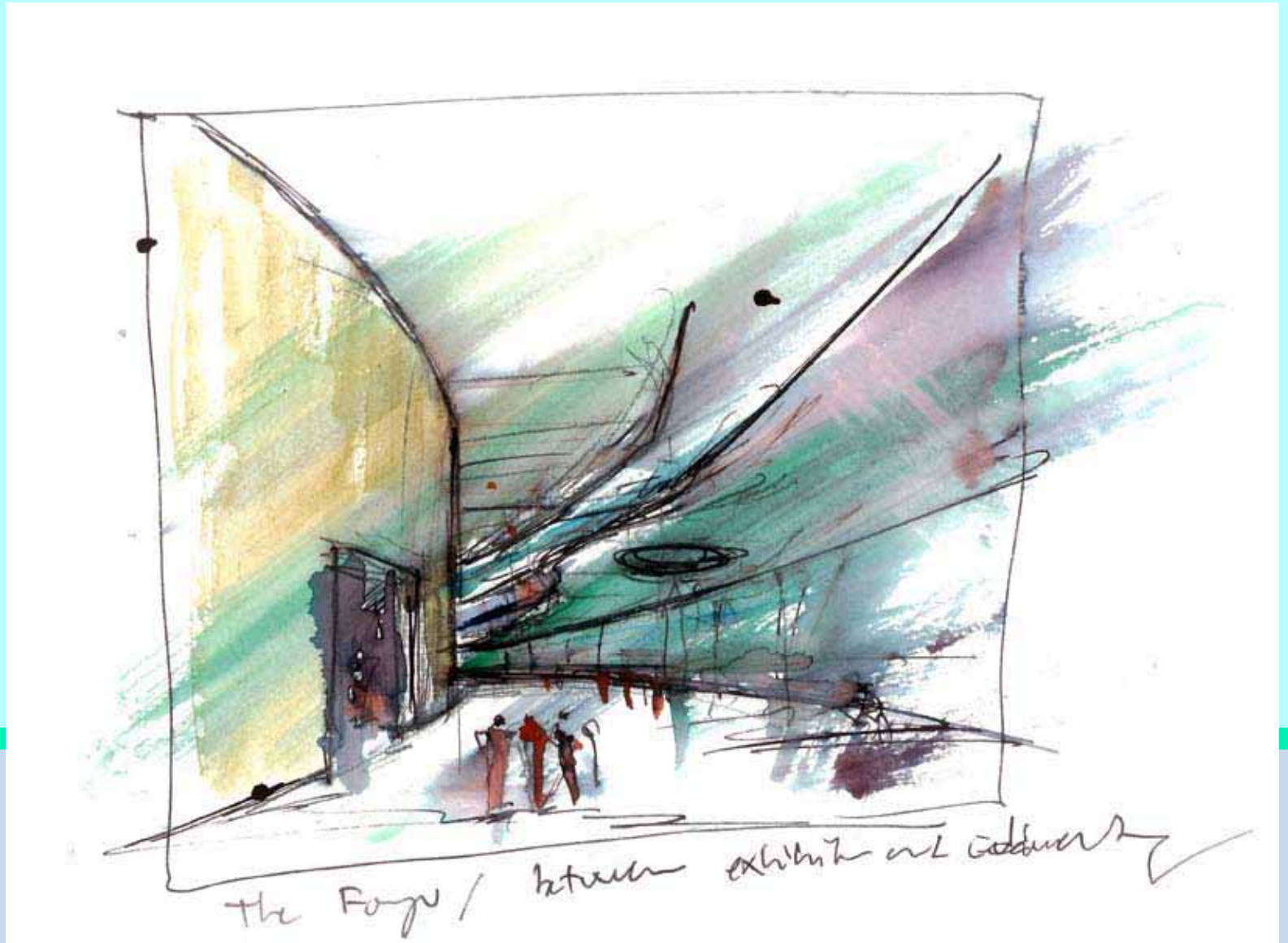
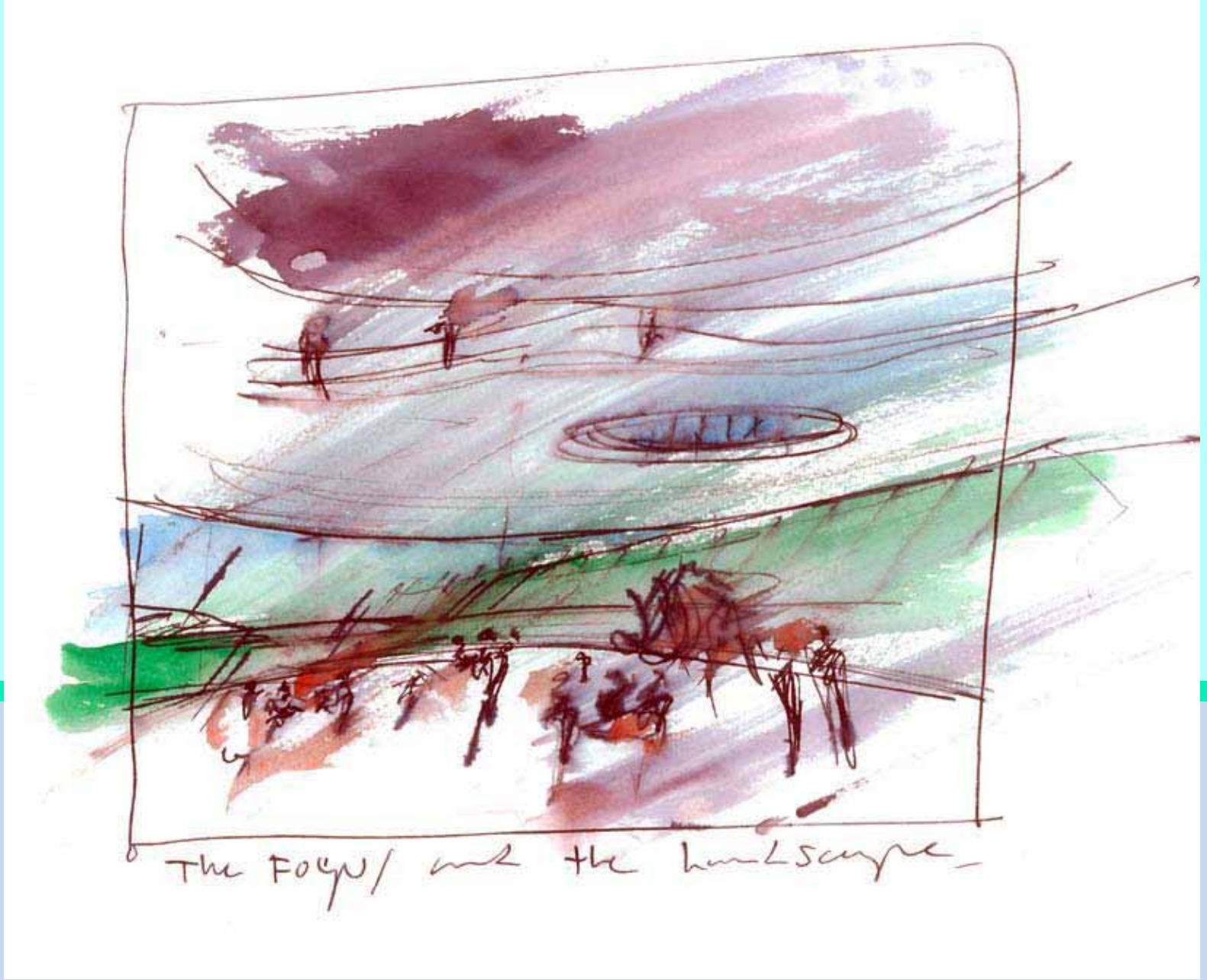


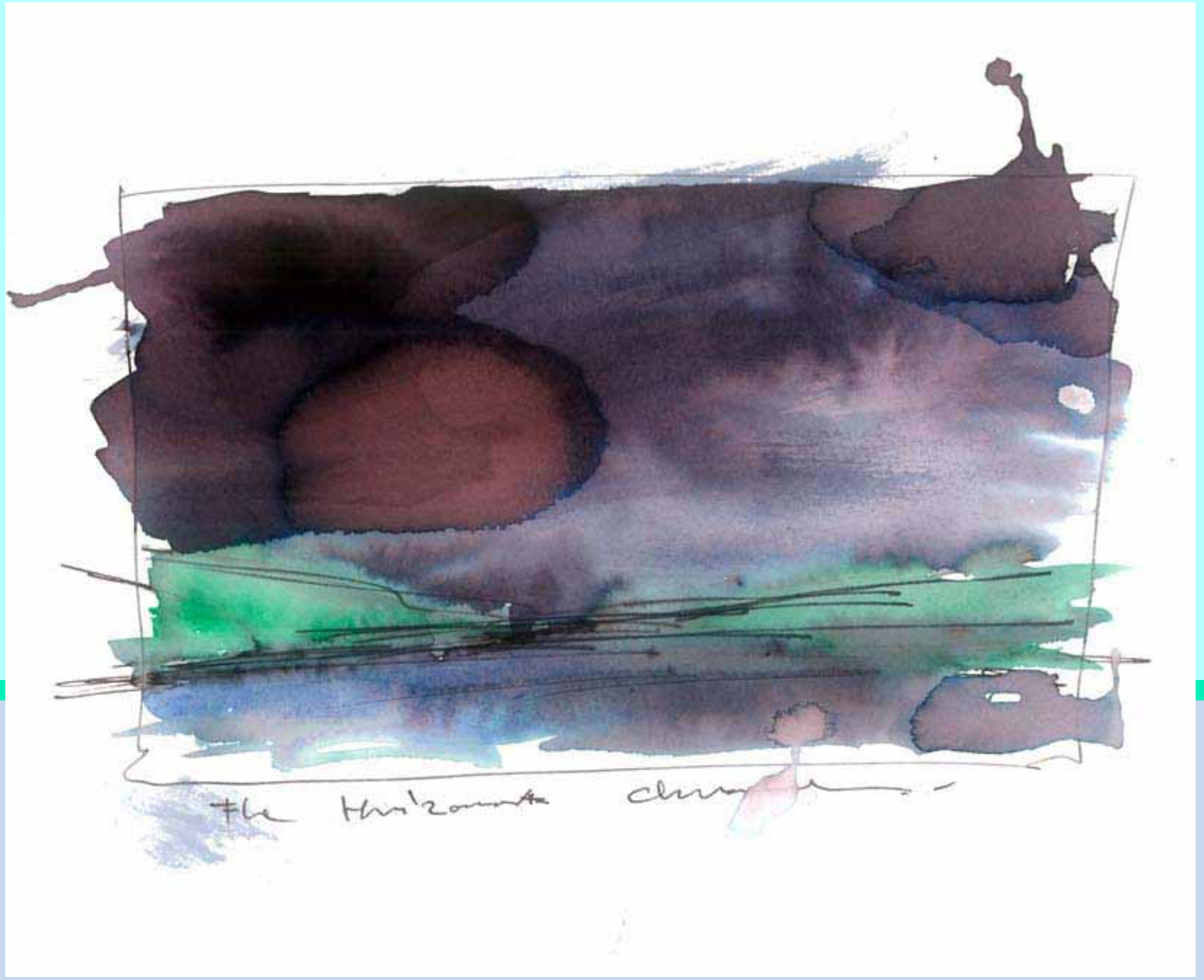


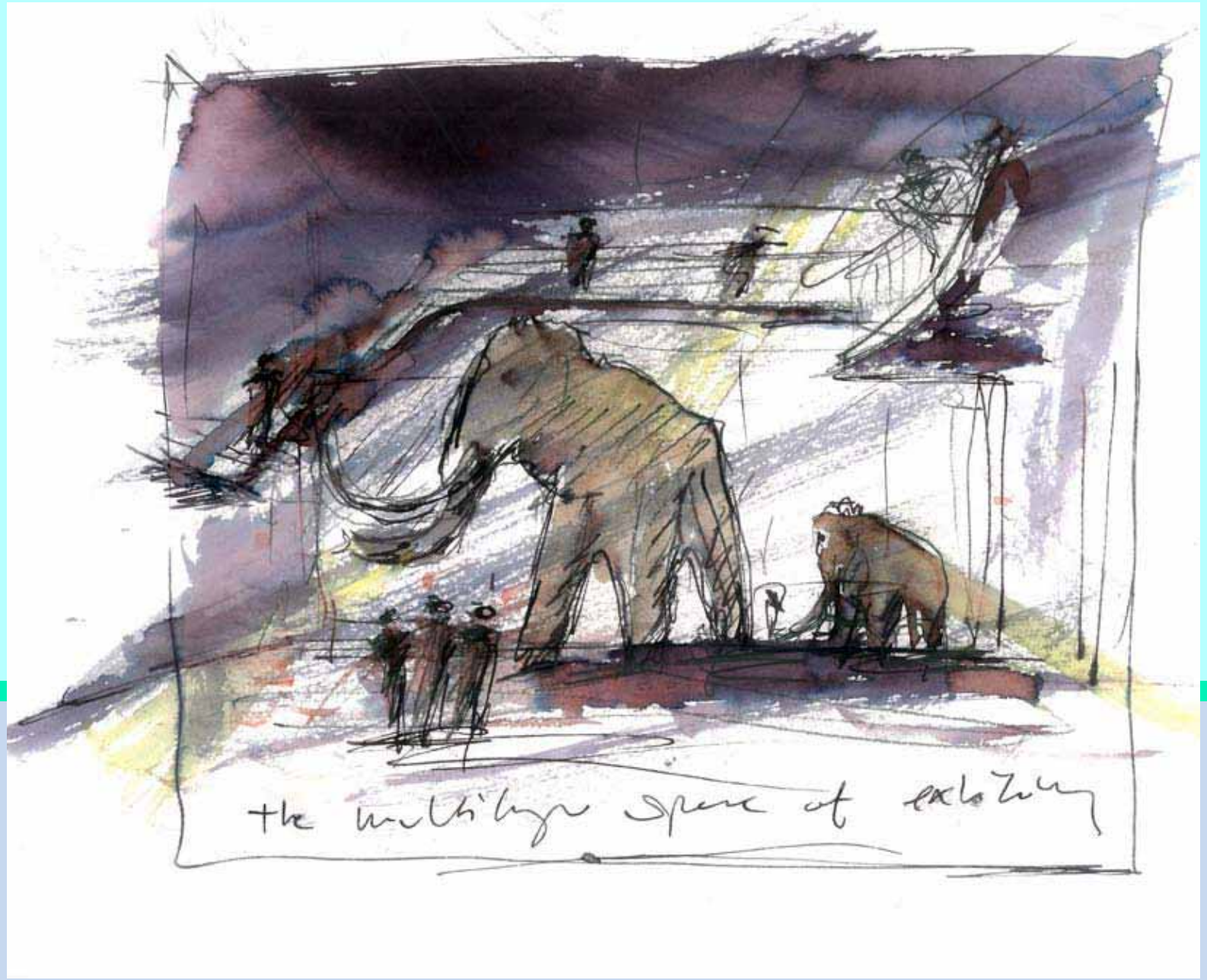

The Artist / the landscape


The Horizontal Line / Push and Pull


The Forge /


The Fold and the Landscape




the multilayer space of


The entrance as A canyon between stone and

Text mammoth museum

Our inspiration takes the starting point in:
- the curved line of the mammoth tusk,
- the historic regional building using wood,
- and in creating a horisontal figur at the site.
In the composition and spatial experience there are several inspirations but one important common feature is the movement through the museum. This movement should like a travel in time give the visitor a series of experiences and insights in the past.

The experience of the World Mammoth Museum will be a sculptural building that consists of two volumes which are inserted into each other.
Each part has its own character.
One is a curved canterliver construction inspired by the tusk of the mammoth and will be white as ivory. The other is a closed volume like a stone covered by wood panels, like a piece of nature stretching upwards from the ground.
This juxtaposition between the two shapes is seen as a picture of the modern global world with its smooth white surface expressed in the tusk and the nature of the local textuality expressed by the wood.
This juxtaposition between the two shapes is also the main experience in the interior where the tusk provides space to balconies openness whereas the stone contains the exhibition part.

The idea.
Just saying the words "mammoth" and "the land of permafrost" gets our imagination going. Asking a person about a keyword of our prehistory anyone would name the mammoth, sabletiger and dinosaurs as icons of these past areas.
Therefore the museum is a quest and a travel back in time in order to get an understanding of our present.
This storytelling is the beginning of the designproces of the project and it becomes one of of the keypoints in the design of the museum.
There are three elements in the design:
1. storytelling
2. the composition
3. the spatial experience

The 3 headlines are combined with the functions and formed into a design strategy.
The curved line of the tusk, the sloping line of the rock volume, the contrasts in the materials and the movement through the museum originates from the three elements.

The content
The new museum is a bridge between the global world and the local society. Seen from the global perspective the focus is the fantastic nature and history of the area. Seen from Yakutsk the musem is a communitycentre from which the visitor will be in contact with the museums of the global world.
Therefore the museum both contains the professional research- and science facilities and even more importantly the exhibition and educational/tutorial facilities which will create a learning lab for all generations (including schools).
The mission statement of The World Mammoth Museum is a crucial tool and could contain notions as collect and exhibit information of the mammoth, iceage, permafrost and be a link between all museums in the world. The guest should be encouraged by displays, themes and interactive set-ups to understand the past and use this in understanding the present.
The architecture and spaces will encourage these elements and through flexibility give different possibilities. Among these ideas could be a childrens lab("Build you own mammuth","Make an excavation","Build a mammoth in 3D"…).
Therefore the multimedia should be integrated in the solution. Therefore the educational zone, research and exhibition has to join together in one fixpoint - in the curved shape of the tusk.
The landscape and surroundings should also be incorporated into the experience but the path and the functions placed in the landscape have to be adobted to an ecological strategy of preserving the landscape.
All these educational activies create a link to the younger generation and will as such function as a meeting point of knowlegde.
The exhibition space - both the temporary and the permanent should be flexible spaces. The temporary space can be open by large gates both to the foyer and to the permanent space. The spaces have an average height of 8 metres and will be free of constructive elements. Hereby it is possible to create a multilayered exhibition space in which balconies, hallways and diffenrent levels can be used to create a multi-facetted journey through time!

The inspiration of the exhibition could take the starting point of the keyword: "Navigation". As modern people have an overload of information the need to navigate is very important - instead of a linear process as in the classical museum which is very fixed in its flow.
The New Mammoth Museum is a museum of the third millennium and will be-

come a vessel to investigate many topics of the past in order to create a better understanding of the present.
One way of organizing the exhibition could be through following headlines:
The displays: Exhibition of fossils, the mammoth as 1:1 figures, other animals of the time, section through the ground in 1:1 with all layers.
The thematic: The development of climate, the human development, other natural elements of the time, a journey through the tundra.
The dynamic: The temporary exhibitions that also give the common guest new elements to see and the possibility to change topics.
The networking; Connecting the museum with other museums and research/ science spaces throughout the world.
The new museum must balance between a significant sculptural architectonical impression and the creation of flexible spaces to host exhibitions. Therefore the design of the public area in the tusk is more dynamic and open and the design of the exhibition space in the stone more subtle and simple.

The rock, the river and the tusk. The proposal has three compository elements: First, the large volume of an artificial terrain rises like a grass-grown rock in the landscape. Then, the path to the entrance, which runs through the foyer and ends up at the entrance of the caves, is like a river of time and its curved layout and design underlines this motif. Finally, the fossilised bone, the tusk of the mammoth, lies as an element around the rock and creates the contrast to the weight of the rock and the curve of the river.
All together these three design elements create a tale of the journey back in time, from our present day till the era of the mammoth, all collated in the universe of the permafrost.

These motifs provide a very sculptural building that lies in the landscape as a clear, horizontal marker, underlining this aspect of the scenery.
Simultaneously, the connection with the caves is given a high priority as well as having the greatest view possible of the landscape, the lakes and the whole natural scene from the area of administration and research and from the visitors' areas.

This sense of local belonging is also underlined by the choice of materials, in which the large volume, the rock, is wooded, much like the historical buildings in the area.
The mammoth tusk (or the fossil) is covered with a matt, acrylic white ?? and white frosted glass so that it presents itself as a smooth and precise object in contrast to the wooden and in situ produced surfaces.
All of this inspiration as regards materials, shapes and stories is adapted to the logistic demands of the organisation and technique of the building and of the visions of exhibitions.

In many ways the new museum is like a journey back in time, which teaches us about the present, climate changes and other natural phenomena. The mammoth is an icon, an outstanding extinct species that will never cease to amaze us. This proposal uses the fossil expression of the mammoth, the curved tusks, as a design motif, which is contrasted by the closed exhibition and work shop areas.

Gross floor area.
Ground level 3321 sqm kt. 1.40 metre
1 level 1673 sqm kt. 6.20 metre
2. level 611 sqm kr. 10.00
3 level 271 sqm kt. 13.80

Functions

In the organisation of the functions, the movement of the visitors has been given a high priority as a clearly logical factor in the exhibition and work shop areas. However, also the fact that the building presents itself dynamically and open has been a focus of the project. Therefore, the administrative and research areas have been situated so that the staff have a view and an experience of the landscape. This allows for the museum to be buzzing with activity when viewed from the outside. Thus the exhibition areas and the non-daylight dependent work shop areas and storage facilities have been kept as "black boxes" centrally placed in the building.
The service area, the information desk and the shop are all placed near the entrance.
From the entrance area the visitors move towards the main access to the permanent and the temporary exhibitions and to the excavated caves. This area functions as an intersection from where people can choose different routes.

The foyer continues into a panorama space with views towards the southwest and the lake. Here the flexible rooms with learning facilities, school services and the children's area will be placed. From here there is also access to the first floor

which holds the restaurant / café.

All of this part of the museum functions as a didactic learning space, in which new technology, 1:1 elements, sensory experiences and IT based learning environments can be unfolded. At the same time the views and the visual contact with the landscape and nature are integrated into the overall experience.

The spatial differences themselves are used as part of the experience, with the arrival along the curved concrete wall, the ravine or the shaping at the entrance, the black box exhibition rooms and nature's own black boxes of the excavated caves. This whole proces finds its opposite in the large panorama views of the landscape.
The staff and the researchers enter through a central security check point, from where there is also surveillance of the goods docking bay. From this entrance area access can be gained to the work shops, the reception area, the administration and the research facilities. These are all situated in the mammoth tusk and they all have views of the landscape. From these areas there is access to the foyer and the restaurant through a security gate.

Deliveries to exhibitions and of goods take place through a docking bay that gives access to the quarantine area, the central distribution hall and the work shop / storage area, and the two exhibition areas: the temporary and the permanent.
In connection with the docking bay is a roofed parking area and a storage area.
Bærende hovedkonstruktioner:
The Tusk:

The entire tusk is built up as a steel truss. (I WOULD DELETE THIS POINT – it doesn't add anything of value)

The spine of the tusk is formed as a narrow steel truss running along the exterior façade. This steel truss is a continuous visual element along the entire length of the façade.

The height varies from 12 meters towards the south to approximately two meters, where the façade meets the ground level at the museum's entrance.

The floors of the tusk cantilever out from the steel spine forming U-shapes, which stabilize the truss against rotation.

The U-shapes combined with the cantilever beams also allow the floors to be column free at the interior façade, making it possible to have an open and variable architectural expression along the length of the façade.

The entire tusk structure appears to float, supported at four discrete points: the beginning, the end, and at two points along the stone's transverse wall.

The roof and façade are composed of light secondary structural elements.

The Stone:

The walls of the base are constructed as cast-in-place monolithic concrete, supporting curved steel girders of variable height.

The tusk is supported at four discrete points along the exterior concrete wall.

The roof and façade are composed of light secondary structural elements.

The ground floor slab is raised up over the terrain, supported only at the center. The stone will appear to simultaneously float and have a monumental weight.

As expressed in the design brief, the foundations have not been addressed in the competition entry description.

Insulation
In the artic regions the requirements for insulation are especially stringent. Moreover, special attention should be paid to the design of details to minimise heat loss due to cold bridges.

Ventilation
The interior climate will be optimized to account for the large glass partitions during the summer period and for the limited natural light in the darker winter months. The ventilation system should ensure a sufficient air exchange, and will also be equipped with a closed circuit mechanism to minimise heat loss and regulate the large difference in air temperature between the indoor and outdoor environments during the cold periods.

Snow Load
The building regulations dictate design snow loads, depending on the shape and orientation of the roof. The shape and orientation take into account factors such as snow drifts, local load concentrations and different roof levels.

Wind Load