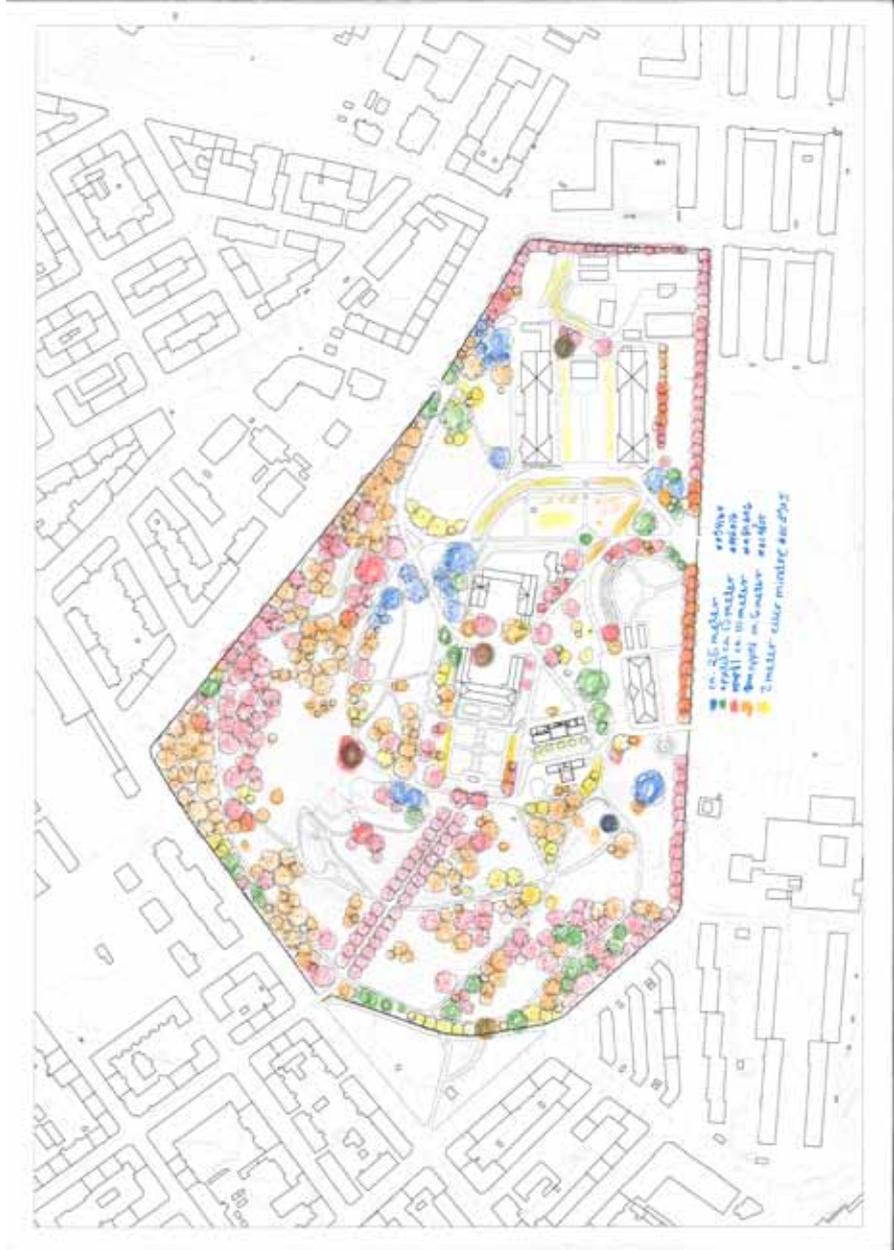
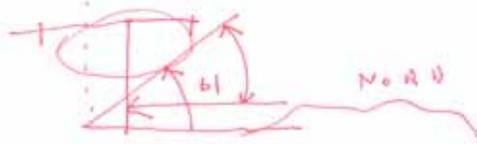


SKETCHES
PROCESS



Soft barriers,
strong unfinished axes
and the existing paths.





	TROPICAL RAINFOREST	CLOUD FOREST	MEDITERRANEAN	DESERT	ARCTIC
IDEAL ORIENTATION	SOUTH or SOUTHEAST	EAST?	can be EAST, WEST or even NORTH	SOUTH or SOUTHEAST	NORTH
AMOUNT OF LIGHT					
TEMPERATURE	 Day: 27°C - 33°C Night: 2°C - 5°C STABLE 25°C 	13°C - 23°C STABLE	Summer: 25°C - 40°C Winter: 3°C - 18°C STABLE	Day: 20°C - 45°C Night: -3°C - 18°C STABLE	Summer: -10°C - +20°C Winter: -50°C - 0°C UNSTABLE
MATERIAL					
ATMOSPHERE	Humidity: 77-98% hot and wet	Humidity: up to 100% hot and warm humid/moist	Humidity: 40-70% warm and dry	Humidity: 10-30% hot and dry	Humidity: less than 20% cold and dry
BIOME PLANT COMMUNITY	FOREST (four layers) emergent: upper canopy: lower canopy: forest floor: epiphytes	FOREST mosses, climbing ferns, orchids.	FOREST, woodlands SAVANNA, scrubland CHAPARRAL?	DESERT cactus, bushes, low trees	TUNDRA moss, dwarf shrubs, herbs, grasses, lichens (fungi).
PLANT SIZE	emergent + 20m upper canopy + 10m very tall! to very low lower canopy + 10m	low land + tall vegetation + less wind high land + short vegetation + more wind	varying	low	very low!
WIND				 can be either very high or very low	

brühe
vispinner

COLD AIR CARRIES LESS MOISTURE THAN WARM AIR.
 OLAFUR ELIASSON
 TOKUJIN YOSHIOKA

PIET UDOLF
 DIETER KINAST
 GÜNTHER VOGT

inversion
 -det som er ute
 kommer inn.

OSLO TEMPERATURE	Rain mm snow	Sunshine per. day	humidity	angle of the sun
jan. 1°C → -7°C	50 mm / 11 days	1,6 hours	85 %	
feb. 2°C → -7°C	40 mm / 11 days	2,8 hours	75 %	
mars. 6°C → -3°C	60 mm / 11 days	5 hours	70 %	
april. 9°C → 1°C	40 mm / 15 days	6 hours	65 %	
may. 16°C → 7°C	50 mm / 14 days	7,4 hours	60 %	
june. 20°C → 17°C	80 mm / 16 days	8,3 hours	62 %	
july. 22°C → 13°C	70 mm / 15 days	6,9 hours	65 %	
aug. 20°C → 12°C	90 mm / 17 days	5,8 hours	70 %	
sept. 16°C → 7°C	70 mm / 14 days	4,6 hours	75 %	
oct. 10°C → 4°C	90 mm / 16 days	2,9 hours	80 %	
nov. 4°C → -7°C	70 mm / 14 days	1,3 hours	70 %	
dec. -7°C → -5°C	50 mm / 11 days	0,8 hours	85 %	

		<u>WATER LILY</u> tropical moist-hot	<u>MOSS</u> arctic dry-cold	<u>ALOE VERA</u> desert dry-hot
PLANT	SIZE OF PLANT	5-15cm flowers	0.2-10cm tall	60-100cm tall
ARCHITECTURE				
PLANT	CHARACTER	<ul style="list-style-type: none"> Aquatic plant Spiral arrangement fragrant 	<ul style="list-style-type: none"> Flowerless Soft 	<ul style="list-style-type: none"> Spreading by offsets Thick and fleshy leaves Succulent
ARCHITECTURE		<ul style="list-style-type: none"> low round space water element the water is brought up to a level where you see the plants in a different way 	space with uneven ground	one space with several views from one point.
PLANT	PURPOSE/USE	<ul style="list-style-type: none"> Decorative Helps reduce algae growth in ponds 	<ul style="list-style-type: none"> Insulation Absorbs liquids up to 20 times their weight 	<ul style="list-style-type: none"> Medicinal use
ARCHITECTURE		clean	protect	heal
PLANT	LIGHT	<ul style="list-style-type: none"> Partially shaded water temperature around 21°C 	<ul style="list-style-type: none"> Grows in the shade 	<ul style="list-style-type: none"> Grows in vast landscape with a lot of sun
ARCHITECTURE		the light in the room can come in indirectly maybe through the water	almost no windows, maybe one that allows one particular light	Almost completely covered with glass
PLANT	STRUCTURE	<ul style="list-style-type: none"> Floating structure Smooth flat surface on top, creeping underwater stems, grows vertically from a single crown 	<ul style="list-style-type: none"> ground hugging carpet like mass 	<ul style="list-style-type: none"> short-stemmed Thick and fleshy leaves
ARCHITECTURE		maybe the pond can be brought up so that you humans experience the root system of the plant	massive structure with main focus on the ground	layers of glass panels that creates a collage space effect



Ficus carica

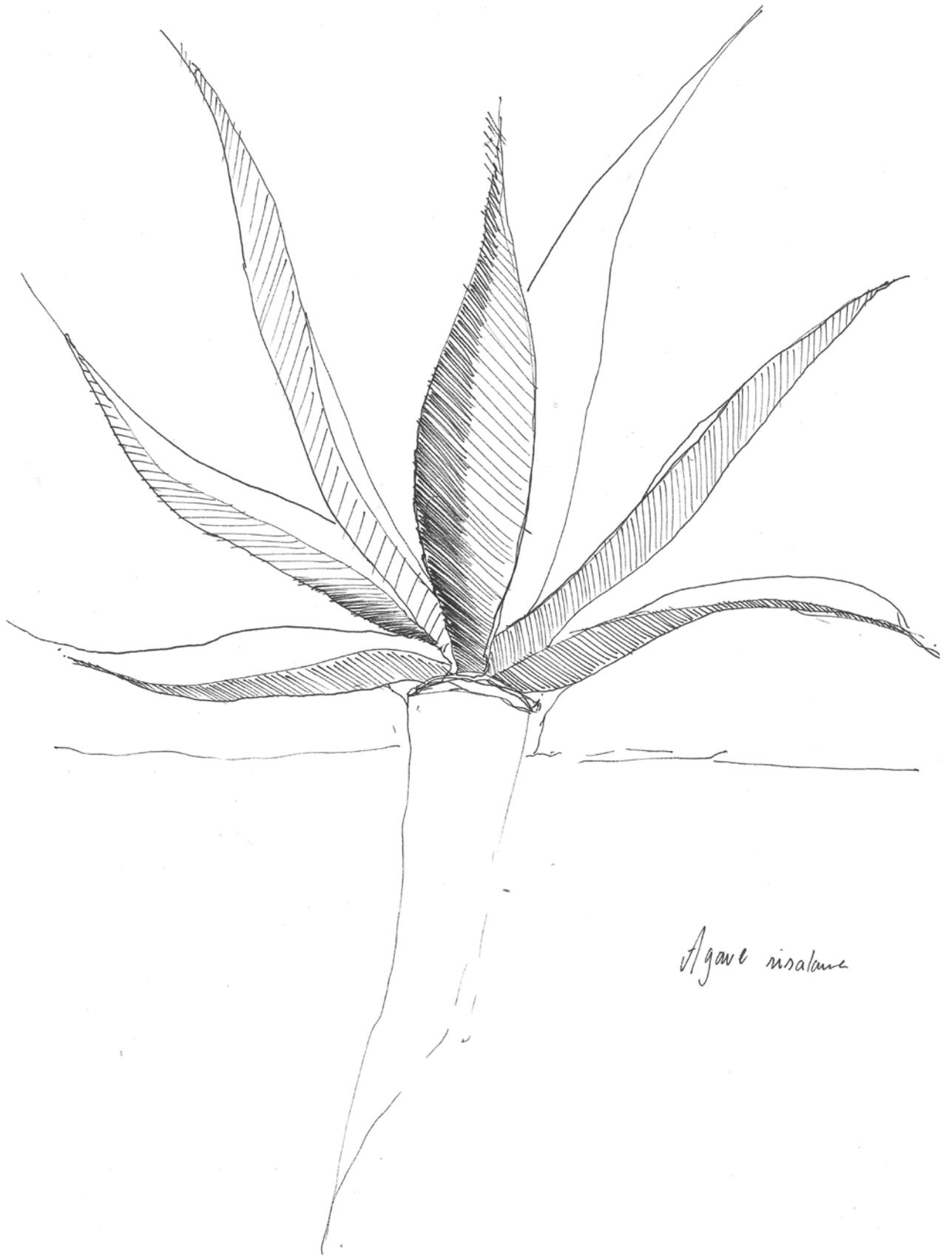
Strelitzia nicolai

Camellia sinensis



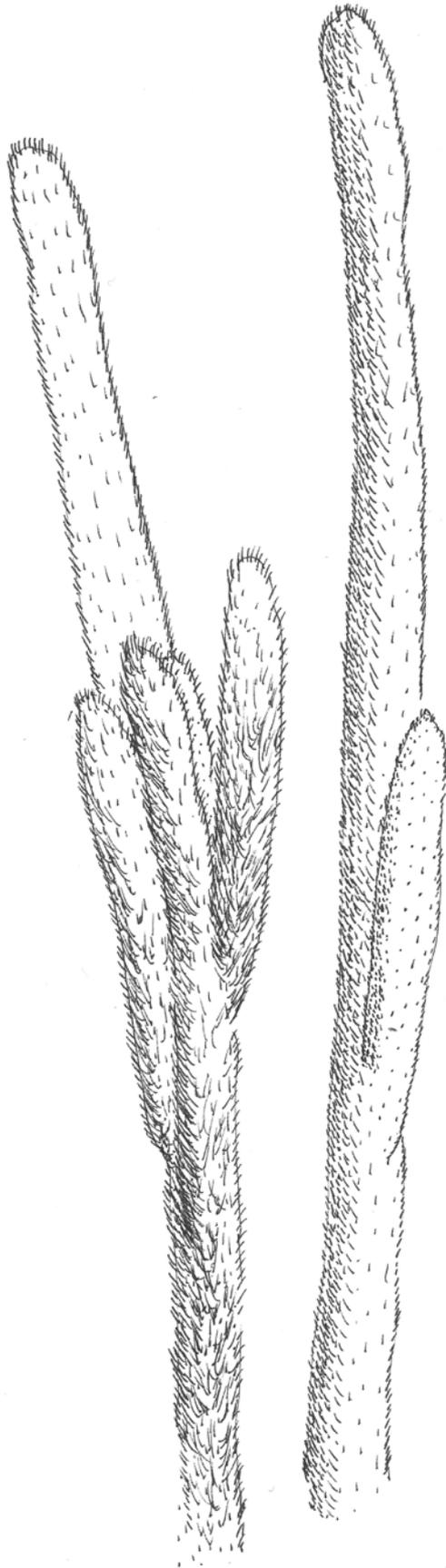
Citrus sinensis

PALMHOUSE 17.9.17



Agave nivalis

Palmer 17.9.17



Cleistocactus strausii

Falmhurst 12.5.17

ØRKEN

AFRIKA

- *Crasula nana* ■ Et del meste af alle aloe planter.
- *Aloe chabaudii*
- *Gasteria disticha*
- *Aloe dichotoma*
- *Aloe vera*
- *Aeromiscus maculatus*
- *Euphorbia triangulatus*
- *Haworthia altissima*
- *Aloe Volkenkii*
- *Euphorbia leptogonia*

AMERIKA

- *Mammillaria sarrorii*
- *Ferocactus wislizeni* ■ Stort søft planter i kaktus familien.
- *Agave sisalana*
- *Abramoetelia brevifolia*
- *Cleistocactus strausii*
- *Echinocarpa pulvinata*
- *Opuntia coarctosperma*
- *Armatocereus rauhii*
- *Agave striata*
- *Parosela magnifica*
- *Agave filifera*
- *Echinopsis tubiflora*
- *Opuntia ficus-indica*

EVOLUSJONS ROMMET

- *Cibotium Schjelderi*
- *Cycas taiwaniana* - konglepalme
- *Cycas revoluta*
- *Cycas circinalis*
- *Marsilea cuneata*
- *Agathis robusta*
- *Cedrus libani*
- *Dicksonia antarctica*
- *Taxus macrophylla*
- *Lauroxylon*
- *Wollemia nobilis*
- *Phyllocladus distans*
- *Equisetum myriochaetum*
- *Adiantum hispidulum*

MIDDELHAVET

- *Citrus sinensis*
- *Quercus suber*
- *Cinnamomum camphora*
- *Laurus nobilis*
- *Ceratonia siliqua*
- *Eucalyptus globulus*
- *Olea europaea* subsp. *africana*
- *Strelitzia reginae*
- *Ficus carica*
- *Pistacia lentiscus*
- *Sida acuta*
- *Strelitzia reginae*
- *Camellia sinensis*

Ulike mat- og urteplanter som står i potter på balonggale.



PALMEHUSET

Epifyt rommet

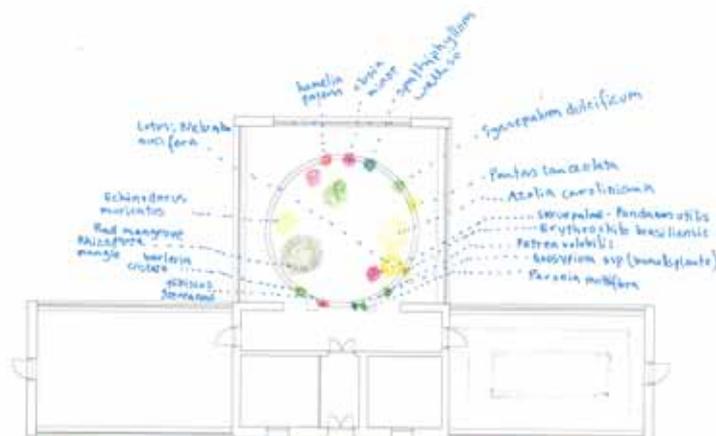
- vanilla planifolia
- dendrobium thyrsiflorum
- Anacardium occidentale
- Billbergia distachya
- amaranthus caudatus
- dendrobium spectabile
- kusmanian lingulata - Tongrefjuvel
- Ceryletolepis capitata
- Stylidiumabile
- Rattus scandens
- Mossar
- dianaea muscipula
- saccharum sp.
- Pinguicula moranensis
- Tillandsia usneoides

Victoria rommet

- piper nigrum; pepper
- zingibar officinale; ingefær
- Stephanotis floribunda
- Rhois humilis
- Aristolochia macrodon
- Brunfelsia americana
- Cinnamomum zeylanicum
- Ytterik ceylanica - Ytterik nordkorese

Afrika rommet

- papaya - carica papaya
- Cestrum roseum
- Pachyrrhizus lamieri
- Coffea arabica - kaffe
- Scadoxus punicus - snake lily
- Musa sp. banan
- Sorghum bicolor
- Calceolaria orientalis



EPIFYT ROMMET

rommet består av tropiske orkideer og planter av muskelfamilien. Epifytter er planter som vokser på andre planter uten å snylte på de. Følg.

VICTORIA ROMMET

varmt og fuktig åpent mellom dem to rommene mange av de samme plantene som i sommerfuglhuset

AFRICA ROMMET

åpent mellom dem to rommene

planter fra kalderet dit litt fuktig klima

VICTORIAHUSET



- HESTKASSELJE
 Abutilon hippocrepium
- TEMPEL TRE
- LIED
 Tilia cordata
- SØPILKROKNE
 FILTRE
 Salix purpurea 'Tana'
- PYRAMIDE EIK
 Quercus robur
 'fastigiata'
- BOKK MED FURNER
 OG SILJER



- Bunker som anvendes bagers
 - - Syringabom (*Syringea paniculata*)
 - - Salixbaek (*Salix japonica*)
 - - Forsytherberis (*Forsytheria thunbergii* 'Apostrophe')
 - - Forsytherberis (*Forsytheria agyralis* var. *perla*)
 - - Forsytheria (*Forsytheria kumata* 'Anthony Water')
- Kvittlingen (sive kvittlingen, sive kvittlingen)
 - - Sambalium Major
 - - Nitrose, alba Maxima
 - - Rosa, alba Chloria
 - - Babingtonia "Korben grom"
 - - Tulipane "pimpinella folia Tolmick"
- Glasværts have (fyldt med mere forskellige lave planter)
 - Bjørnklit (*Dianthus barbatus*)
 - Abund (*Artemisia abrotanum*)
 - Sværdlilje (*Iris pseudacorus*)
 - vinterskion (*Dianthus officinalis* 'helle punde')
 - fjende søthaf (*Rudbeckia la ciniale*)
 - Virginia hvidblomst (*Physostegia virginiana*)
 - Hjerteblomst (*Lysichiton cuneifolia*)
 - Præriealtike (*Helianthus pauciflorus*)
 - Fylskebenke (*Purple cress* - *Ili foranium* + *magnificum*)
 - Tigerulve (*Julium lanceifolium*)
 - Hvide hals (*Lythrum salicaria*)
 - Sårøst (*Saponaria officinalis*)
 - Sibireris (*Sibireris iris*)
 - Gul daglilje (*Ranunculus flammula*)
 - Hvide blomst (*Primula 'Dorothy'*)
- Trætte lunden
 - - bagecepter "domesticus Särestahlm"
 - - Plomme "domesticus Victoria"
 - - Sibireris "Prunus cerasus 'Janet'"
 - - Humle "Humulus lupulus"

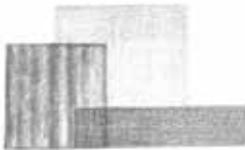
if people usually use one corner
we can separate this by the
structure between the two
rooms and prevent



sketch of the structure



sketch of
partition wall
between two rooms



25
part, whole, system, order, function?
- trying to do

1.
Time and material function
to make it structure
material function
number of construction material
number of the window (light performance)
number of the structure of structure,
material

2.
Cultural, structure/structure
- structure
- order (structure and gathering)
- gathering (order and all things)
- order (structure and all things)
- order (structure and all things)
- order (structure and all things)
- order (structure and all things)

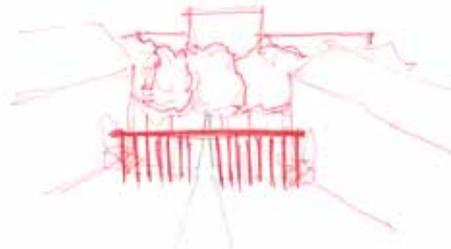


26
by the structure

2-7 hand, some or special things

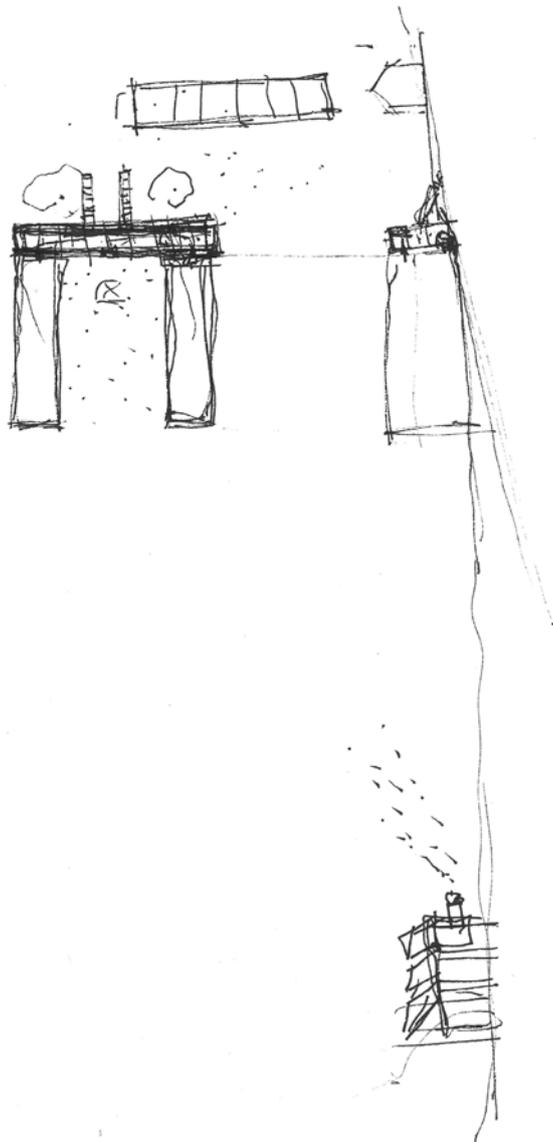
RESISTANCE
- SYSTEM: STRUCTURE
- MATERIAL: ORDER

Structure gives and structure
order, structure & structure
of and order program
for order - structure off structure
for order of order
how, order or order order?



structure for
offering table

All for structure under
structure, structure and
of structure and structure
of structure and structure



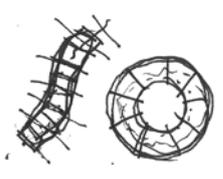
NAME - LINK / threshold / portal...

- 1. circulation → entrance condition
→ threshold btw. new/old.
- 2. contain → shop / green
seating / coffee
offices.



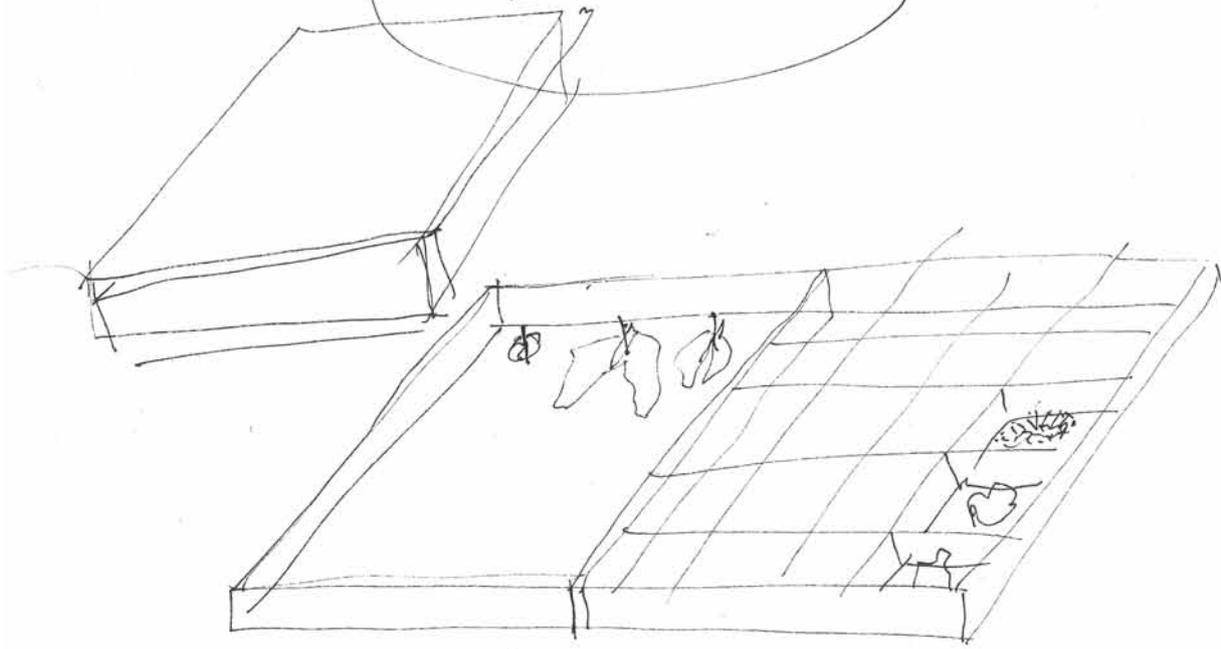
contain → program.

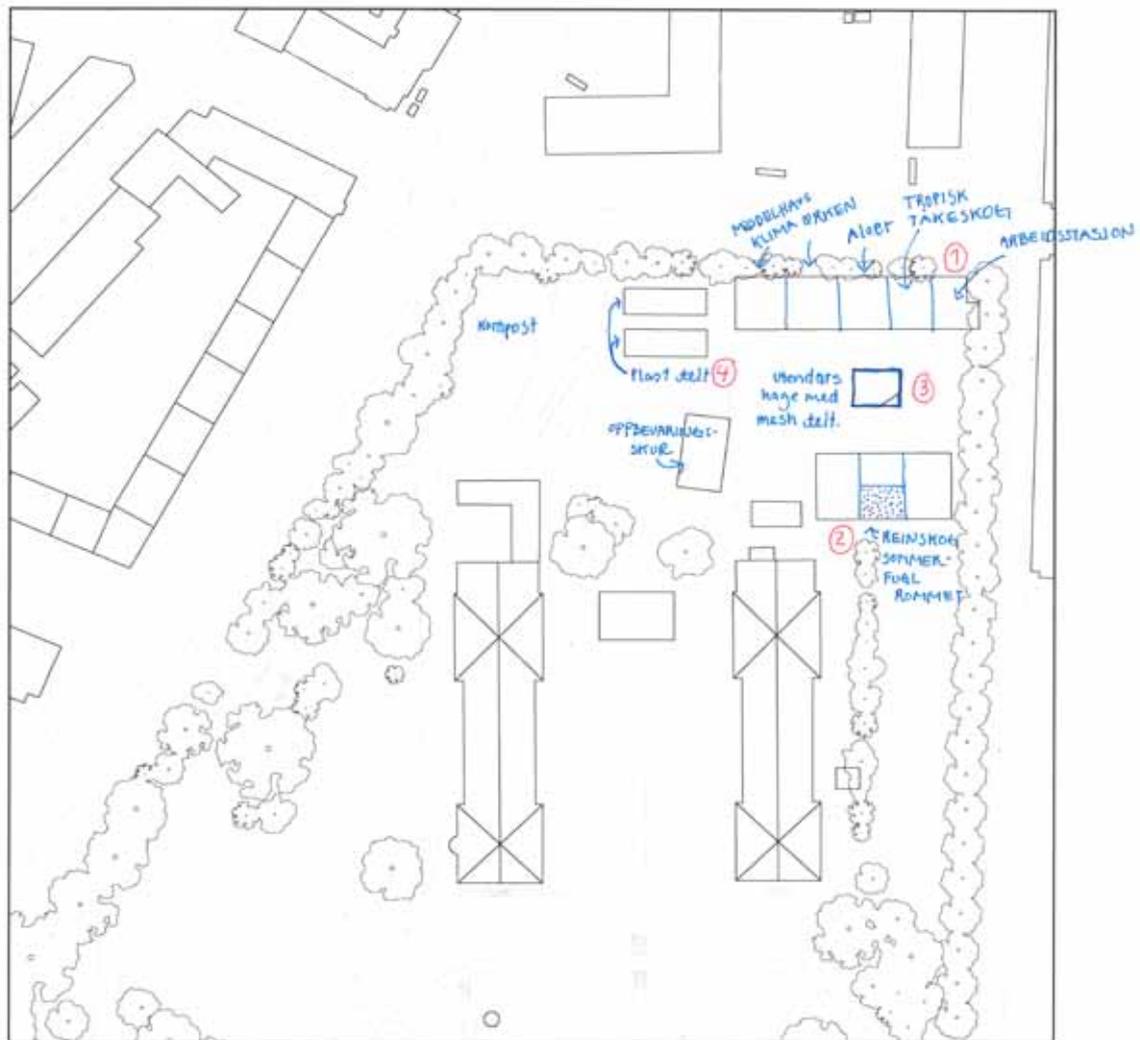
climate
light.



existing "link" "pollinator" "connect" to design details specimens.

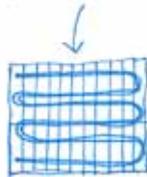
use						
build						
maint.						
	1:1000	1:100 - 1:50		1:20	2:1	





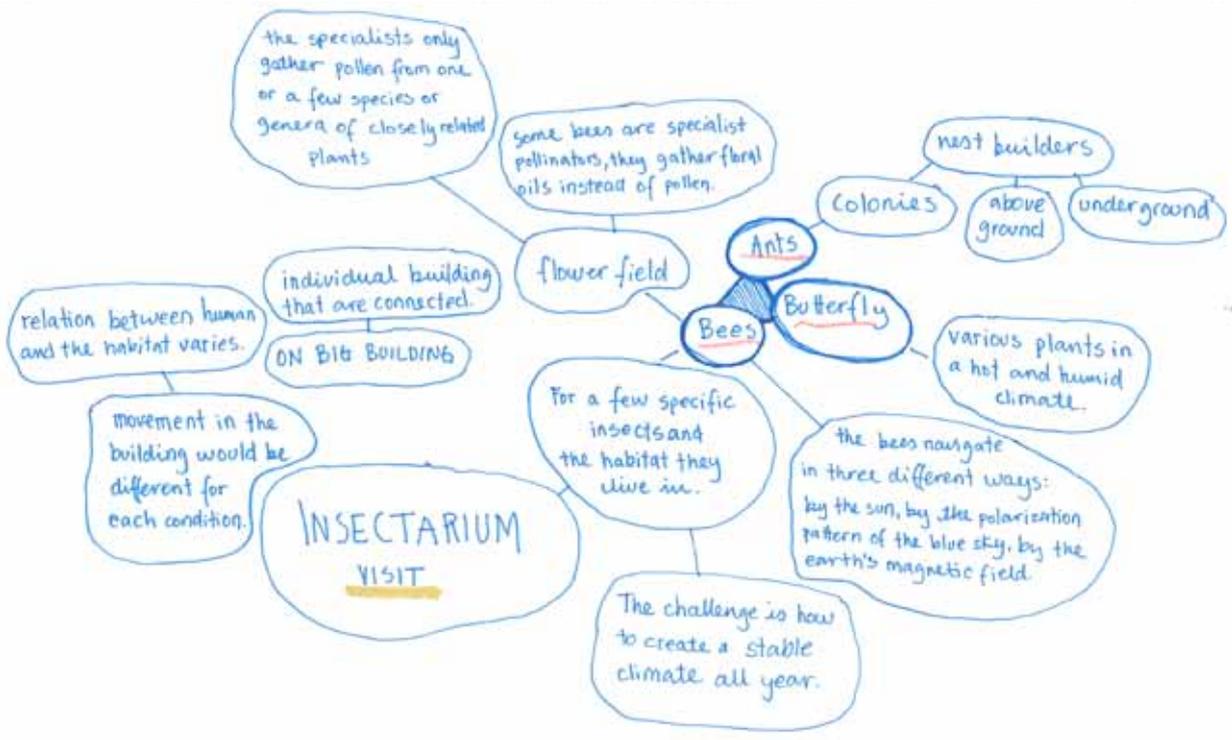
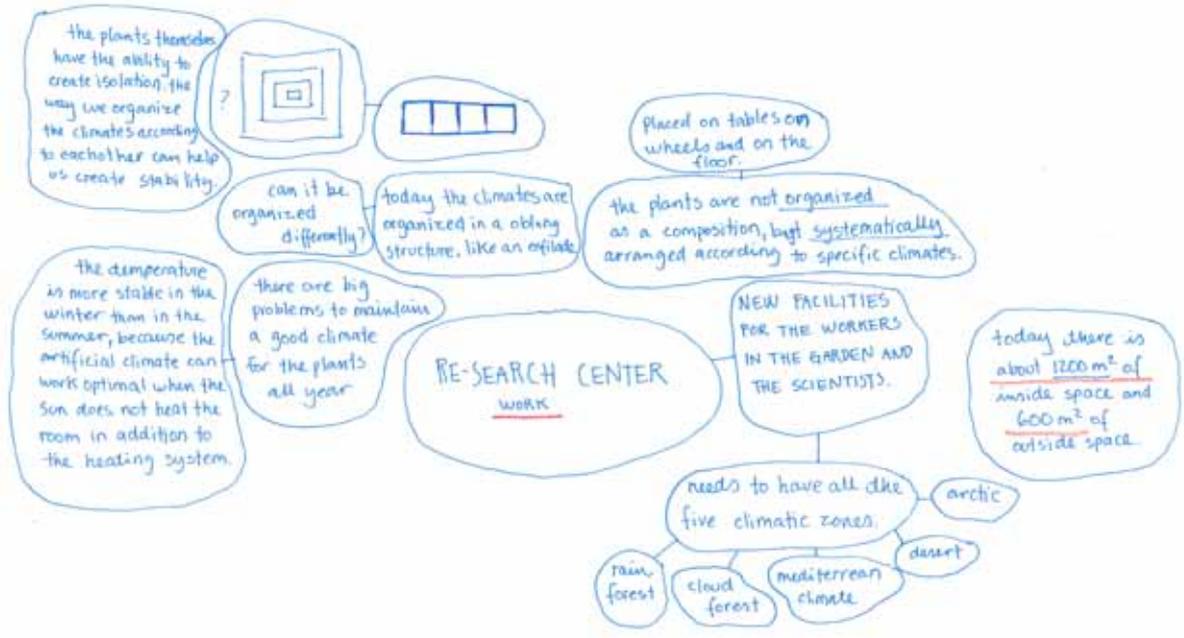
- ① Området blir brukt til forskning av planter, som mellomstasjon (planter blir fraktet hit når det er for kaldt ute eller at utstillingene i veksthusene skifter) og som rom for konservering av spesielt utrydningstruede arter.

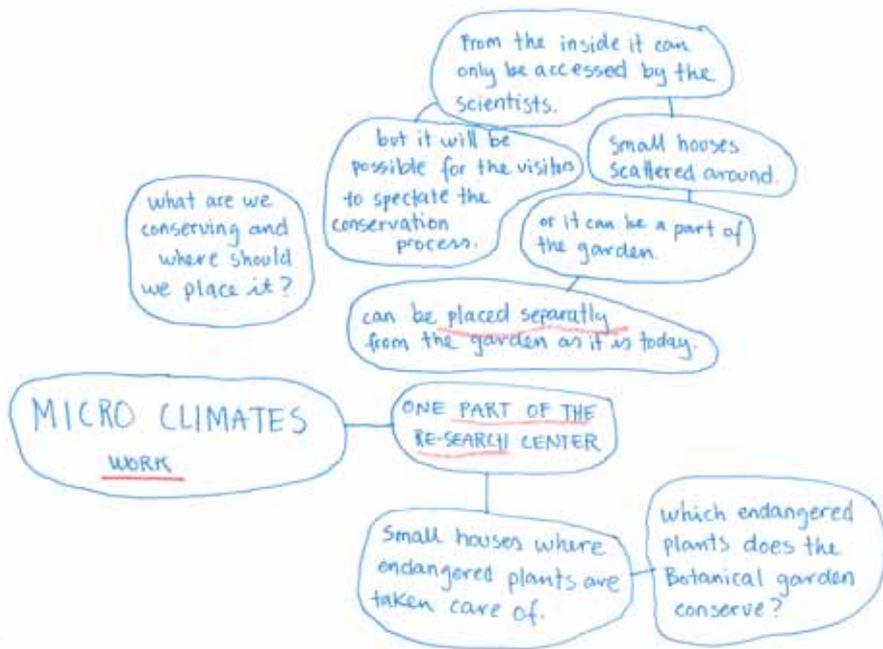
Oppvarmingen av rommene skjer gjennom vannbåren varme lagt i et vertikalt system på innsiden av glassfasaden.

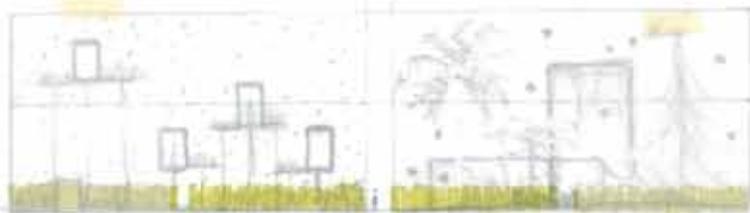
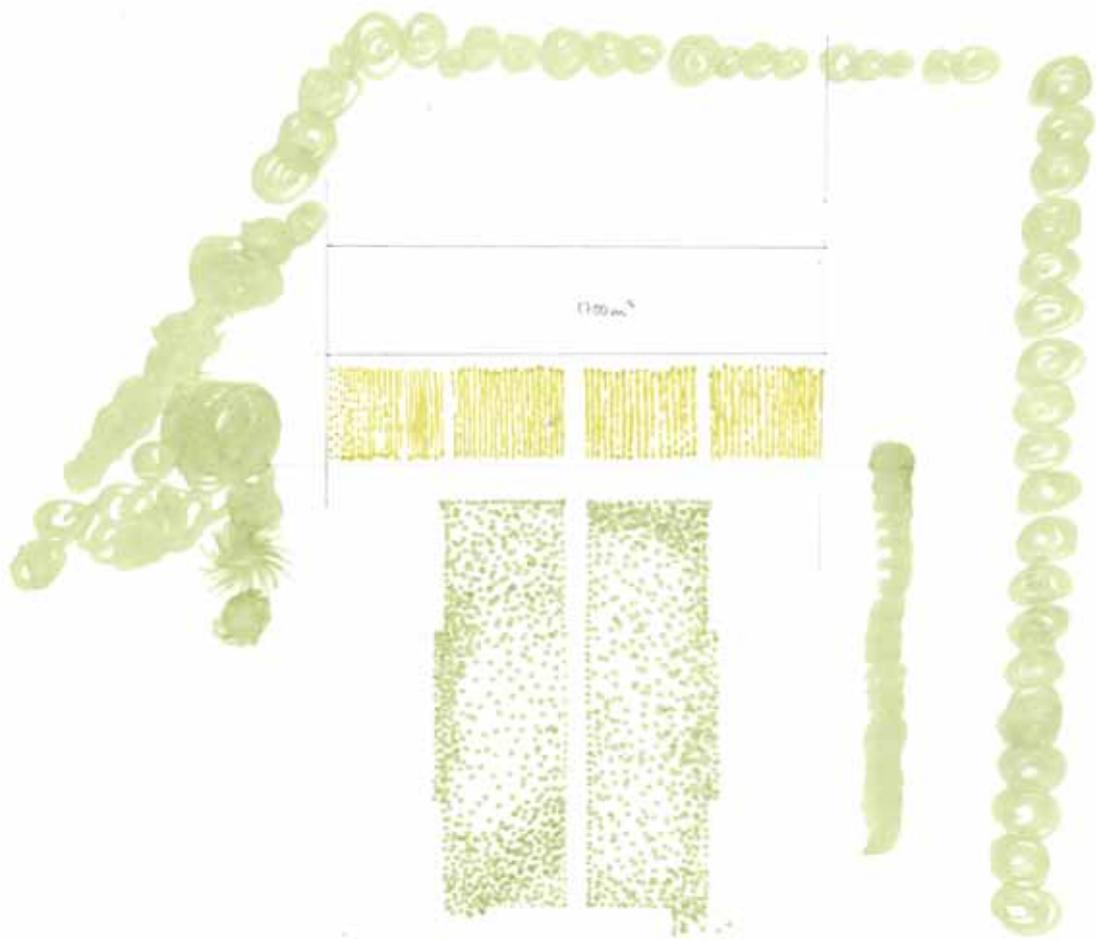


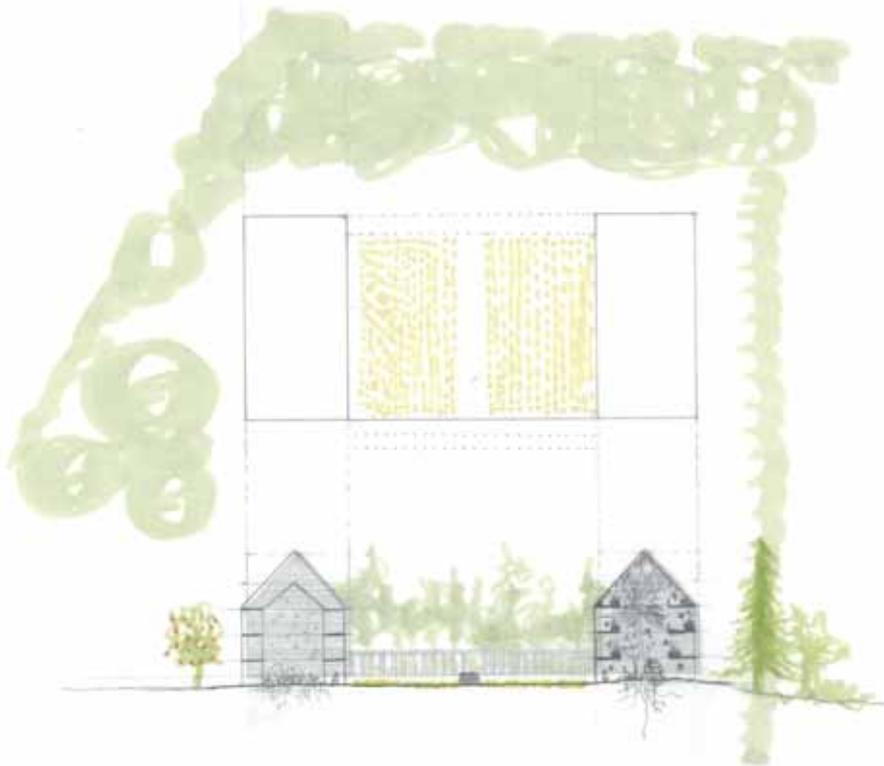
Temperaturen er mer stabil på vinteren enn på sommeren, fordi det kunstige klimaet kan fungere optimalt uten at solen varmer opp rommet i tillegg. Svært vanskelig å holde det stabilt på sommeren på grunn av skiftende forhold. Selv med gode sensorer som sender signaler om temperatur endringer.

I den tropiske tåkeskogen er det et stort problem med fukt som lett samler seg på betong gulvet, dette gjør at alger og sopp formerer seg lett, lokalene må derfor høytrykk spyles veldig ofte, både på gulvet og bordene i metall. SOMMERFUGL ROMMET er en reinskog, men her oppstår ikke de samme problemene fordi underlaget er grus og ikke et solid materialet.

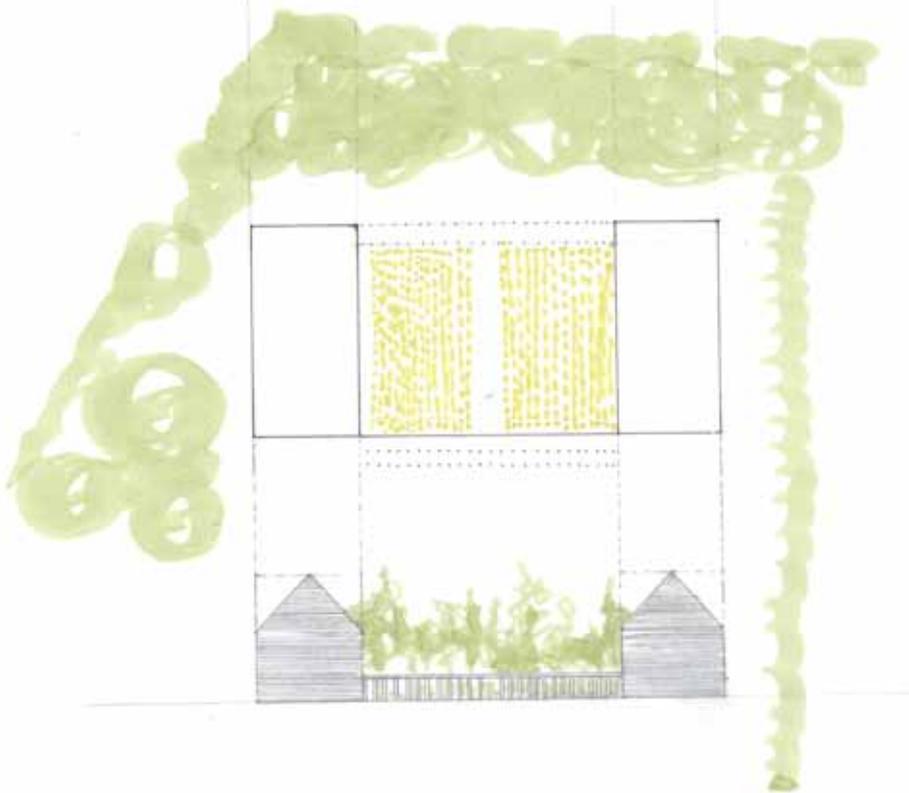


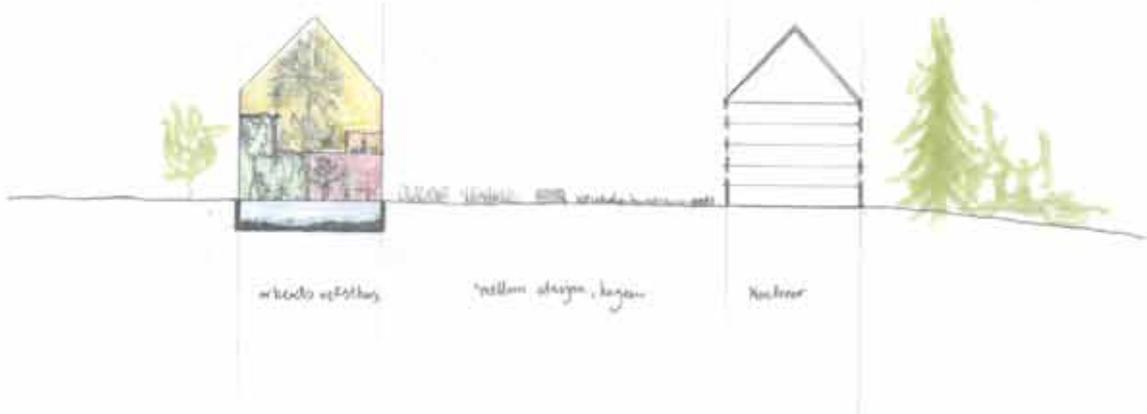
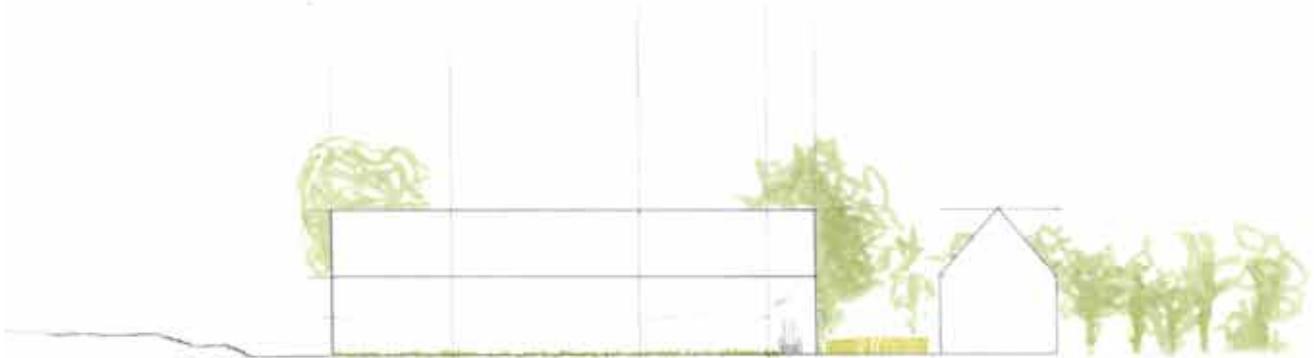


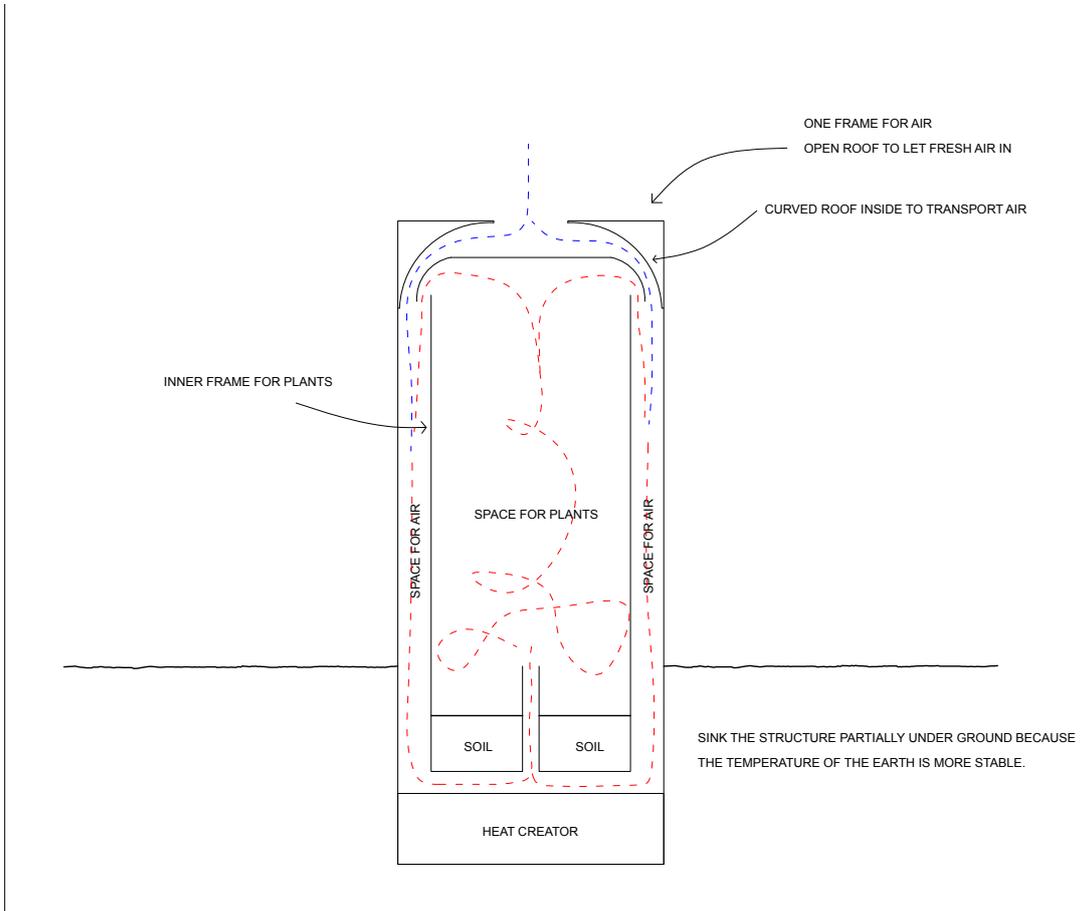
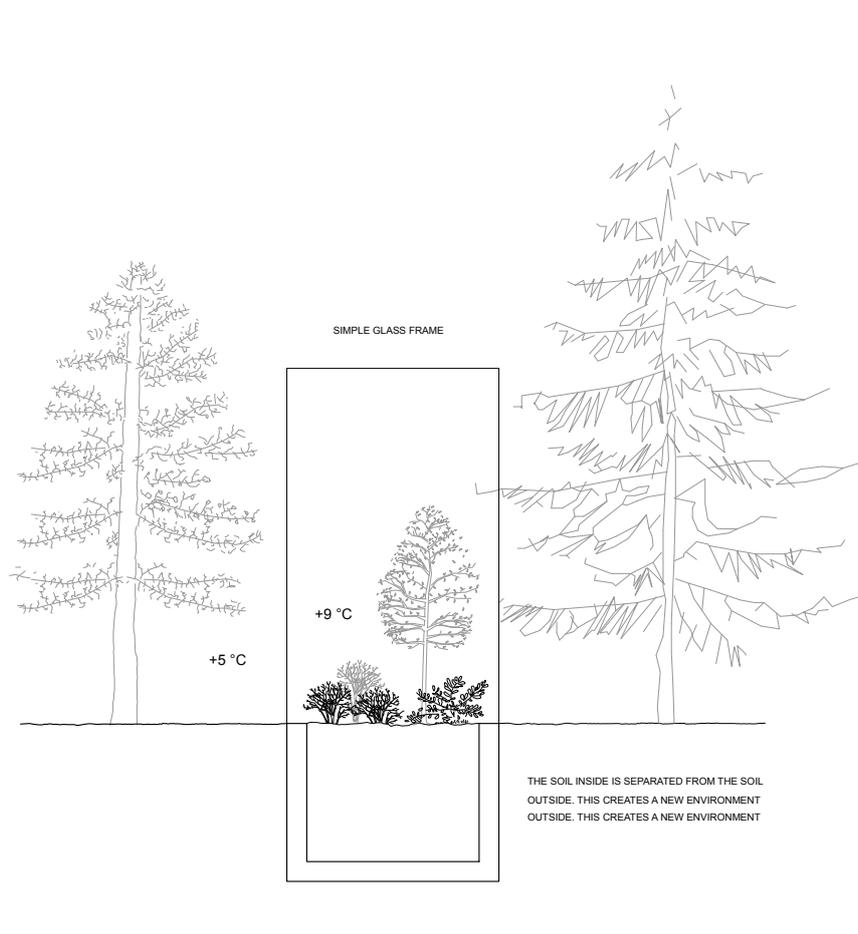


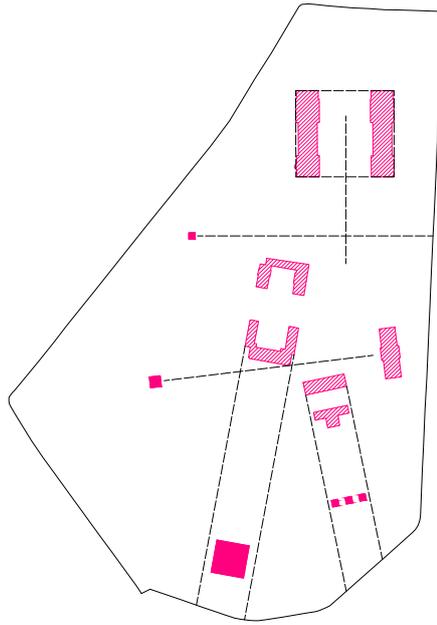


TO PRESERVE
HISTORICAL AND
TO RENEW RURAL.

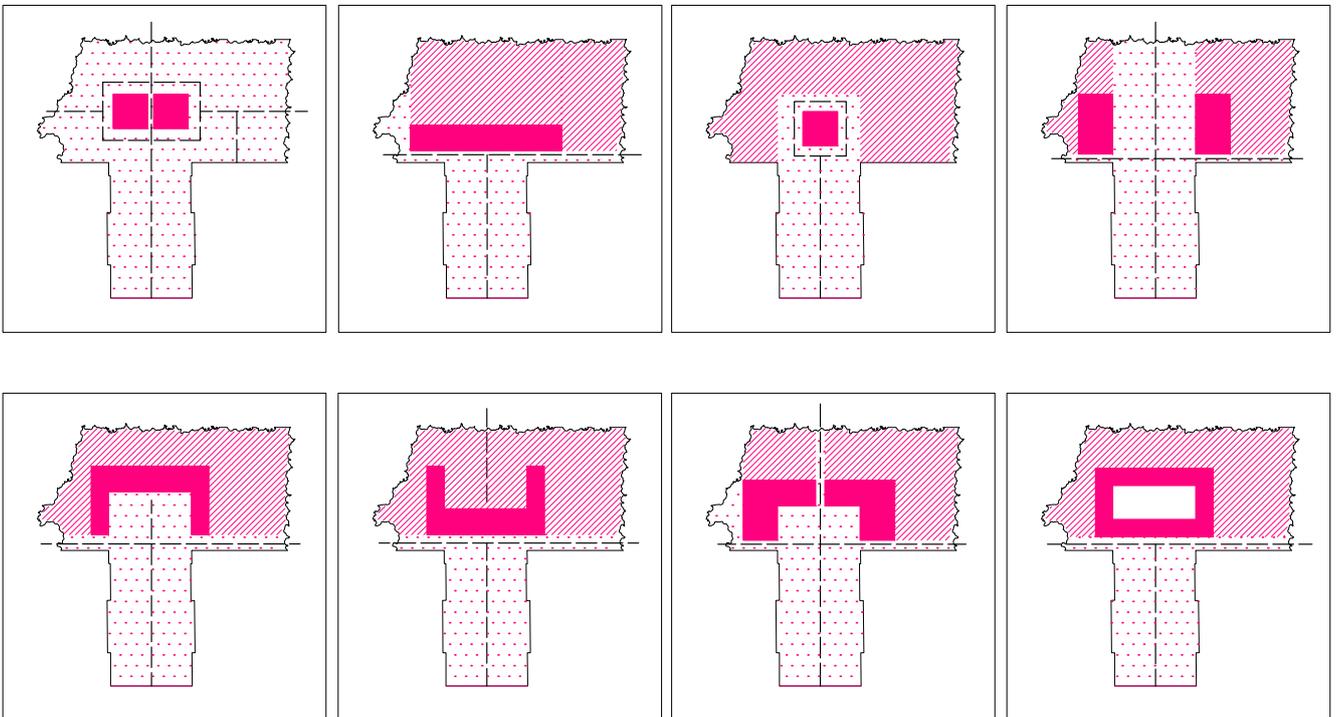


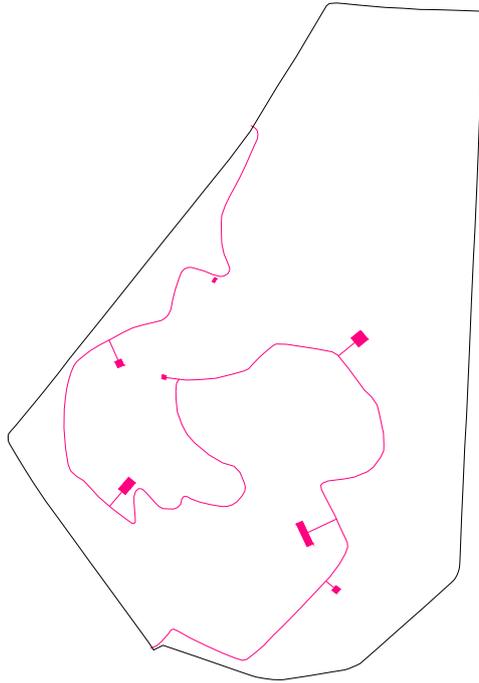




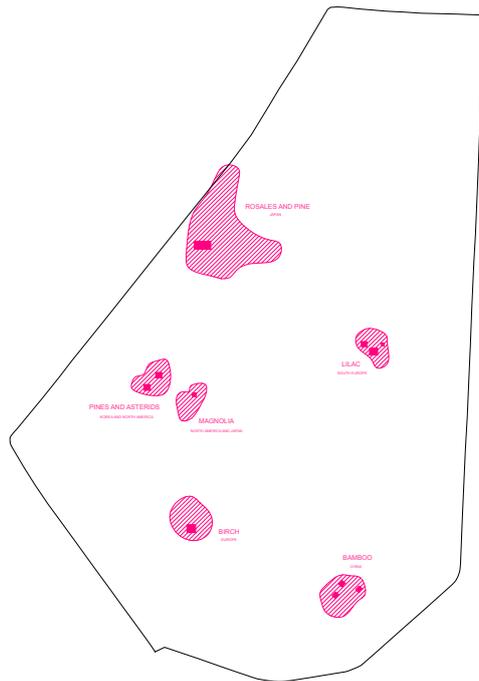


AKSENE



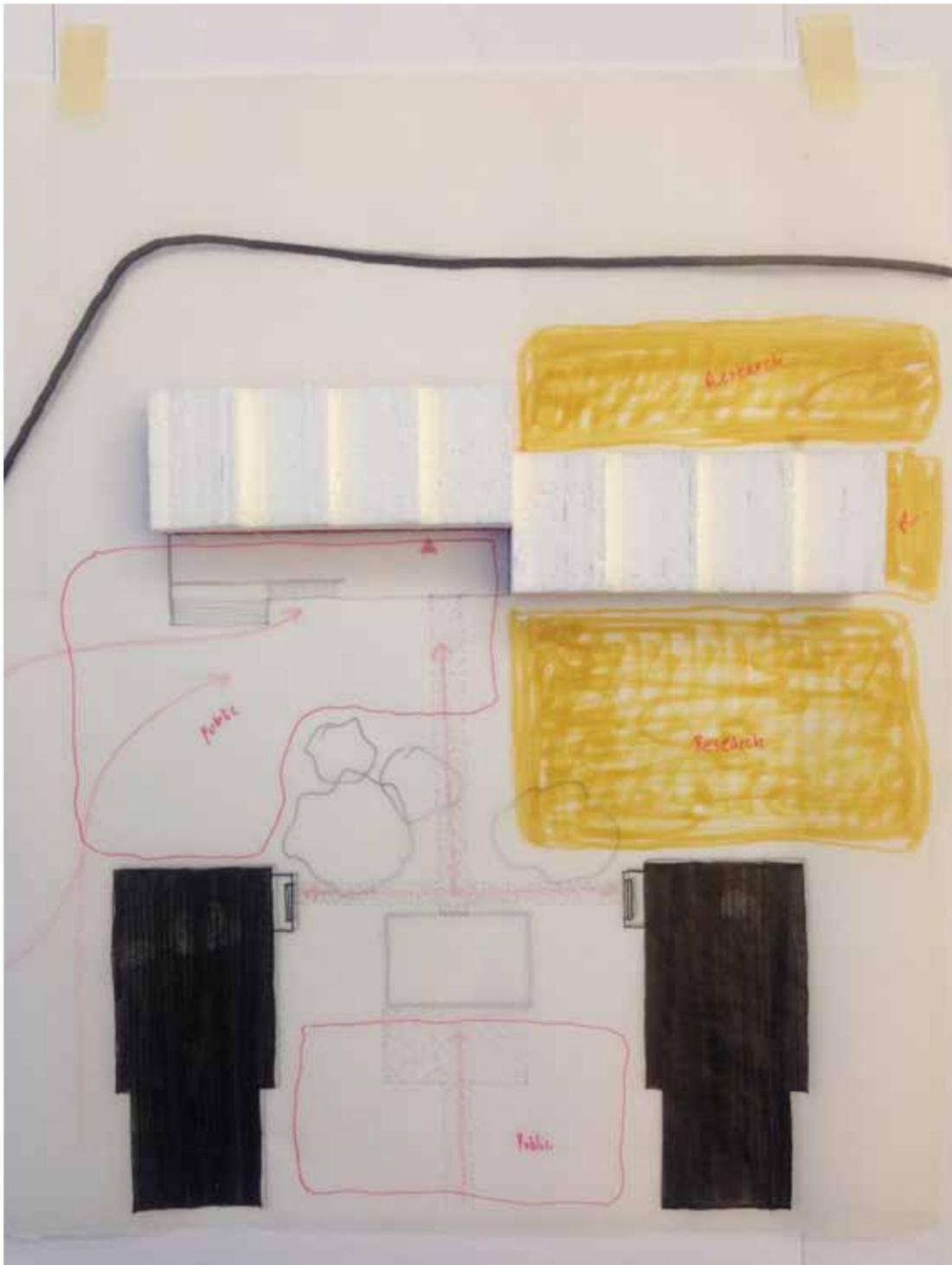


STIENE



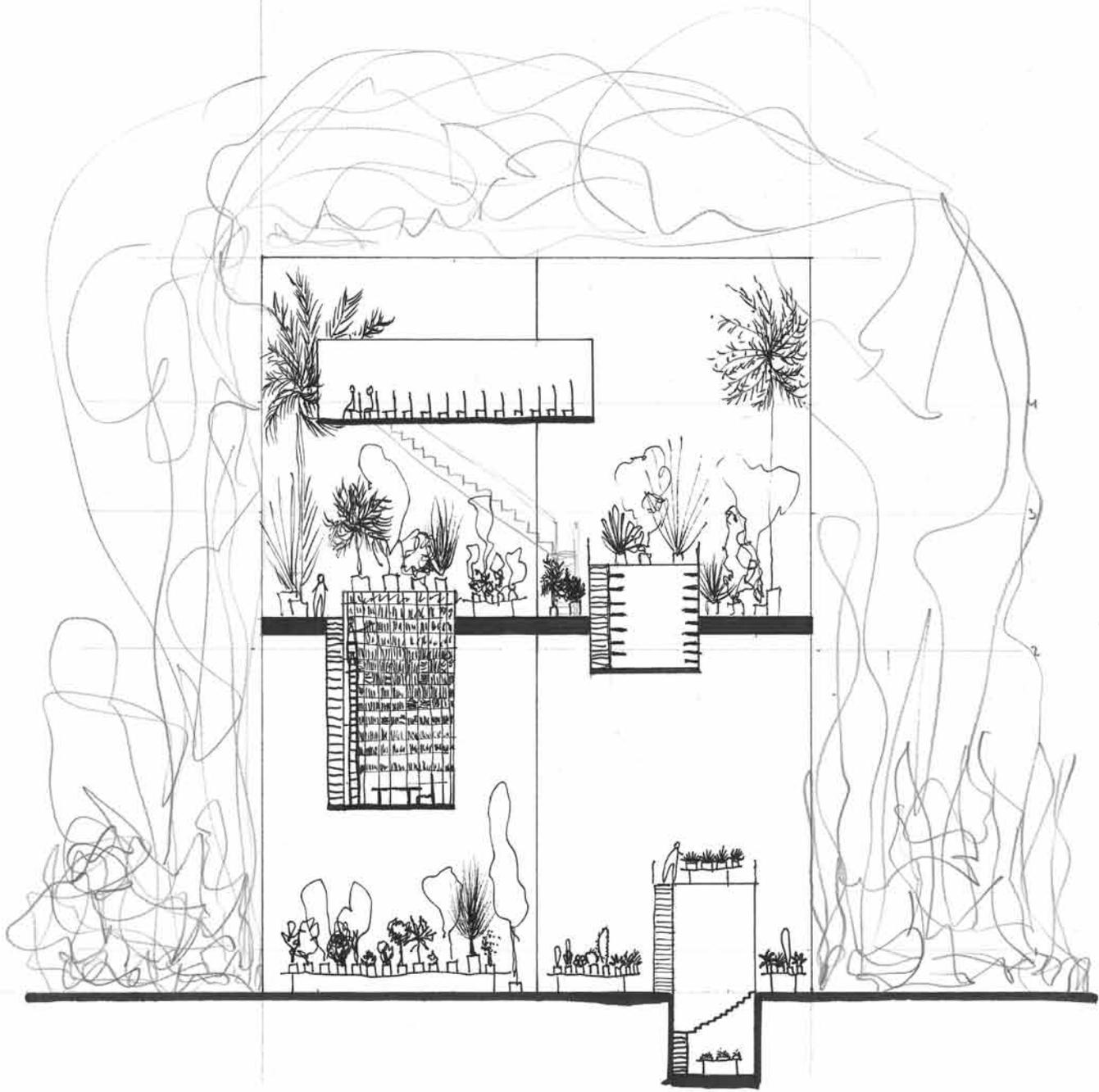


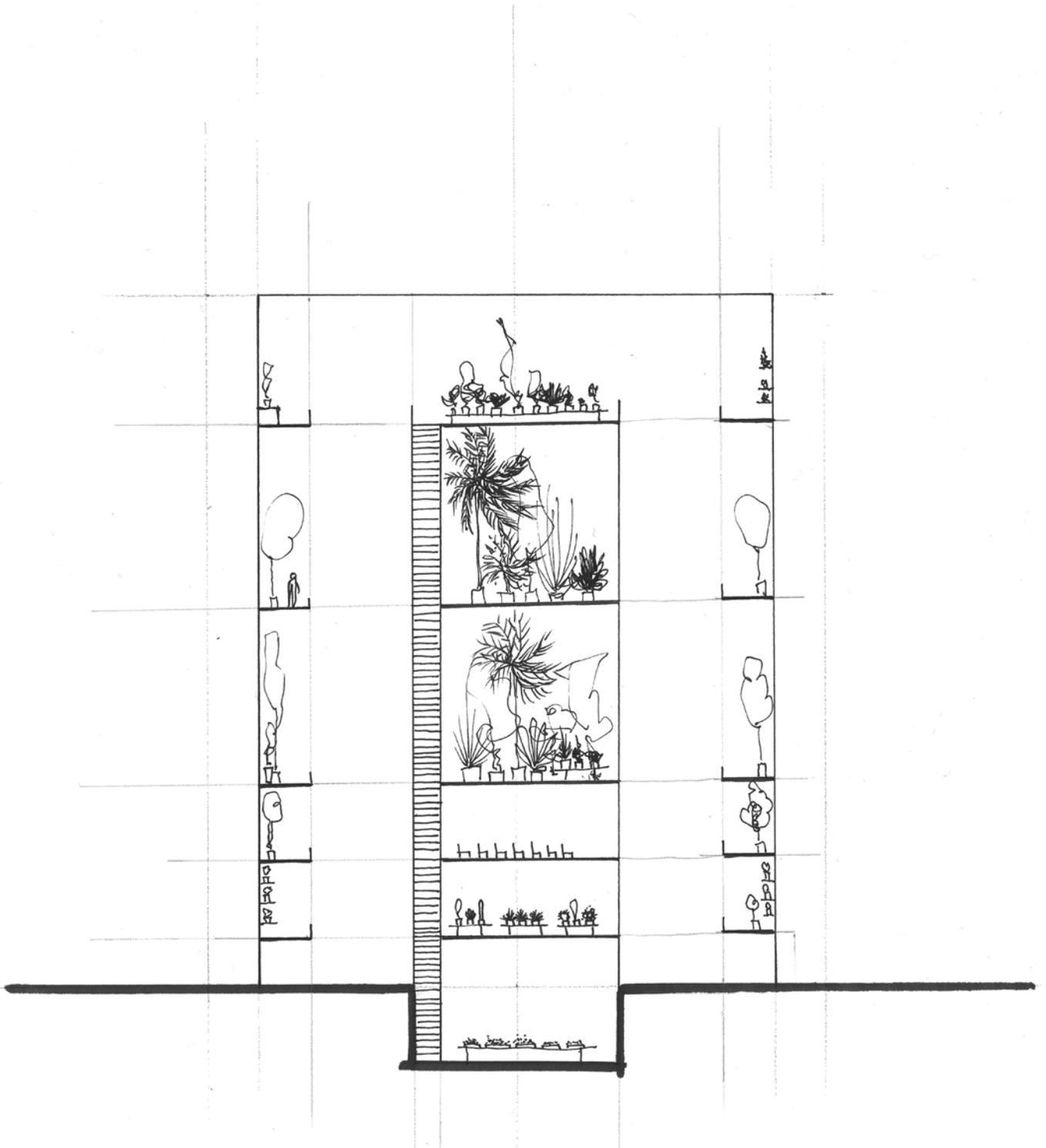


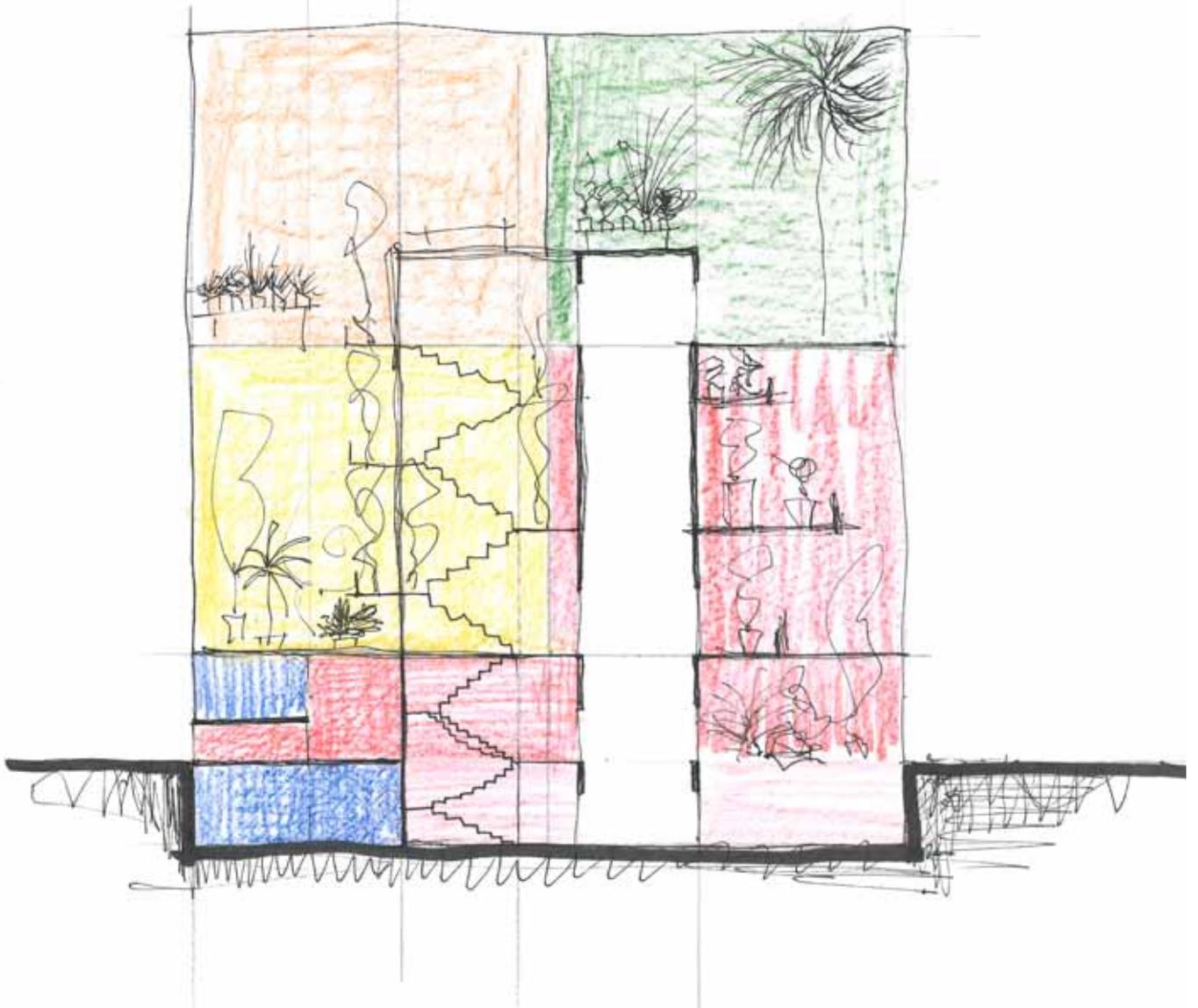


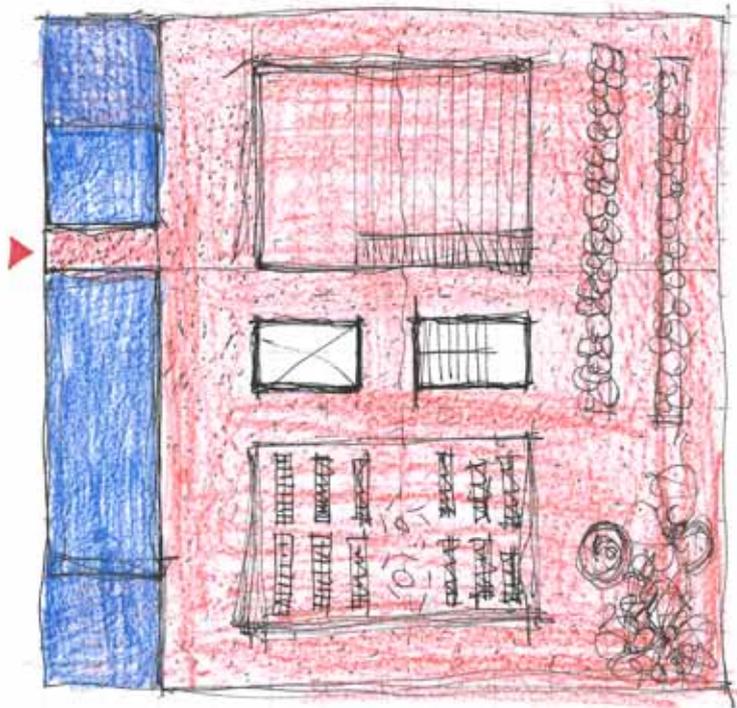












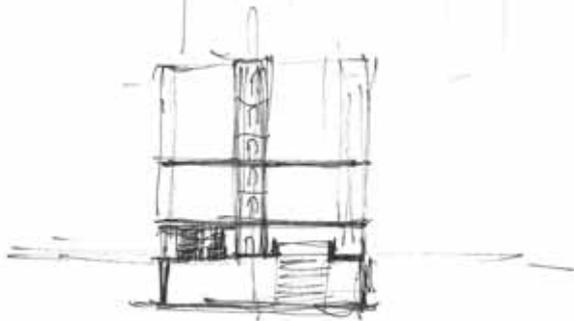
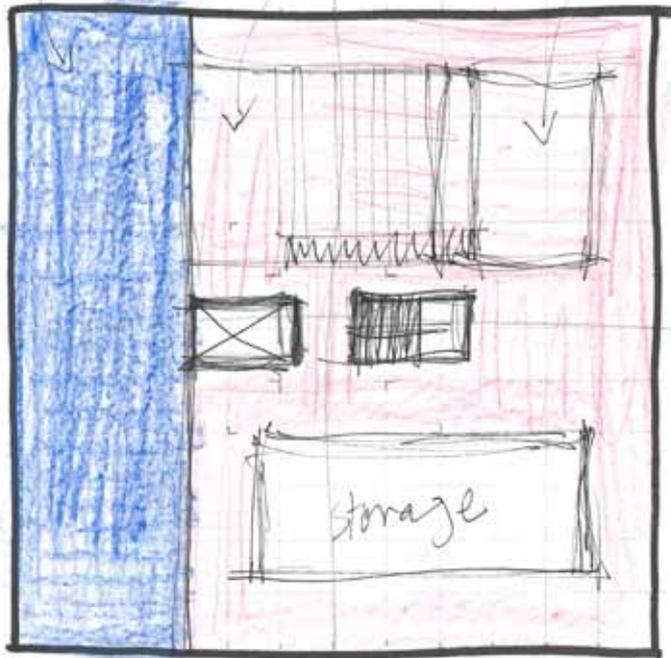
You go through the arctic climate
and directly into the mediterranean.

here you have an open floor, earth floor, flowers
and trees from the mediterranean. A section
with library, Auditorium space.

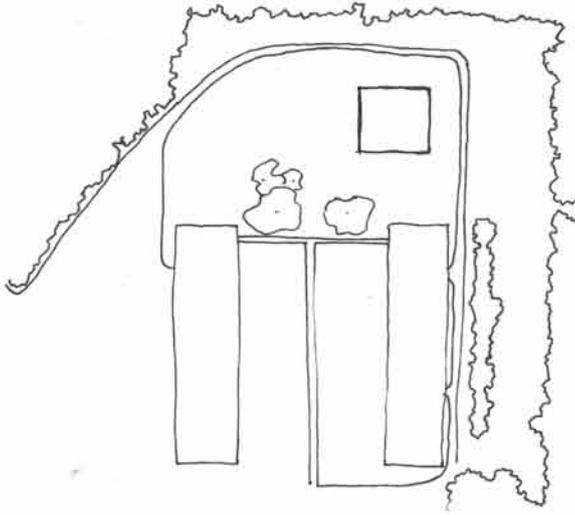
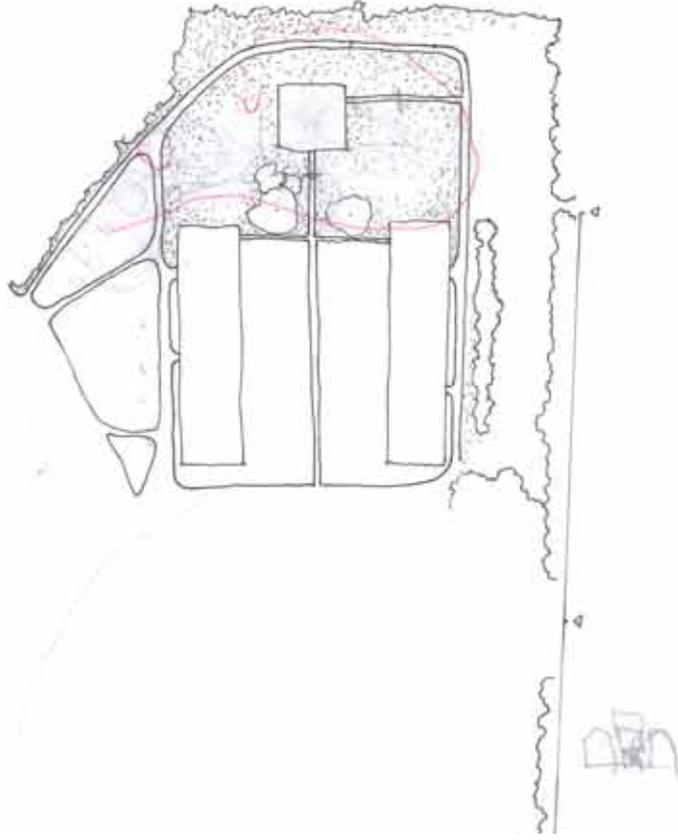
workspace for
arctic climate

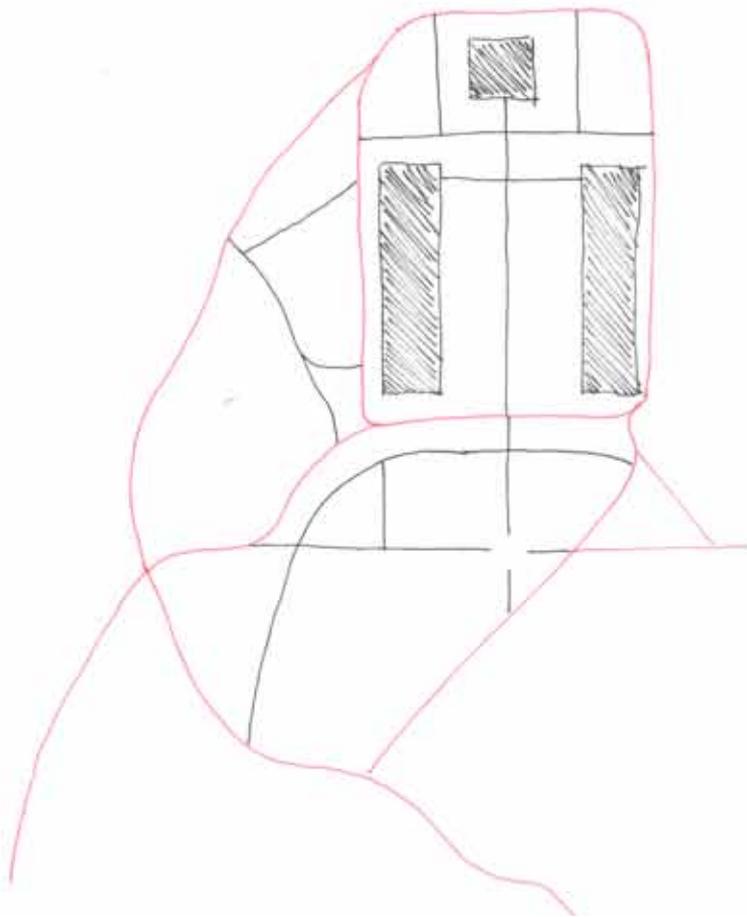
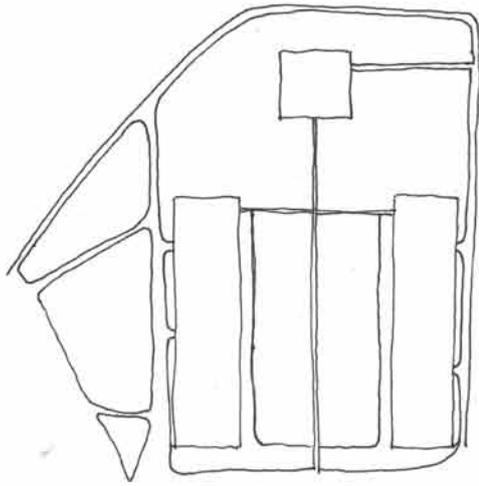
glennweg hvor du kan
se in på arkitekt
auditorium som kinder
105 Vets.

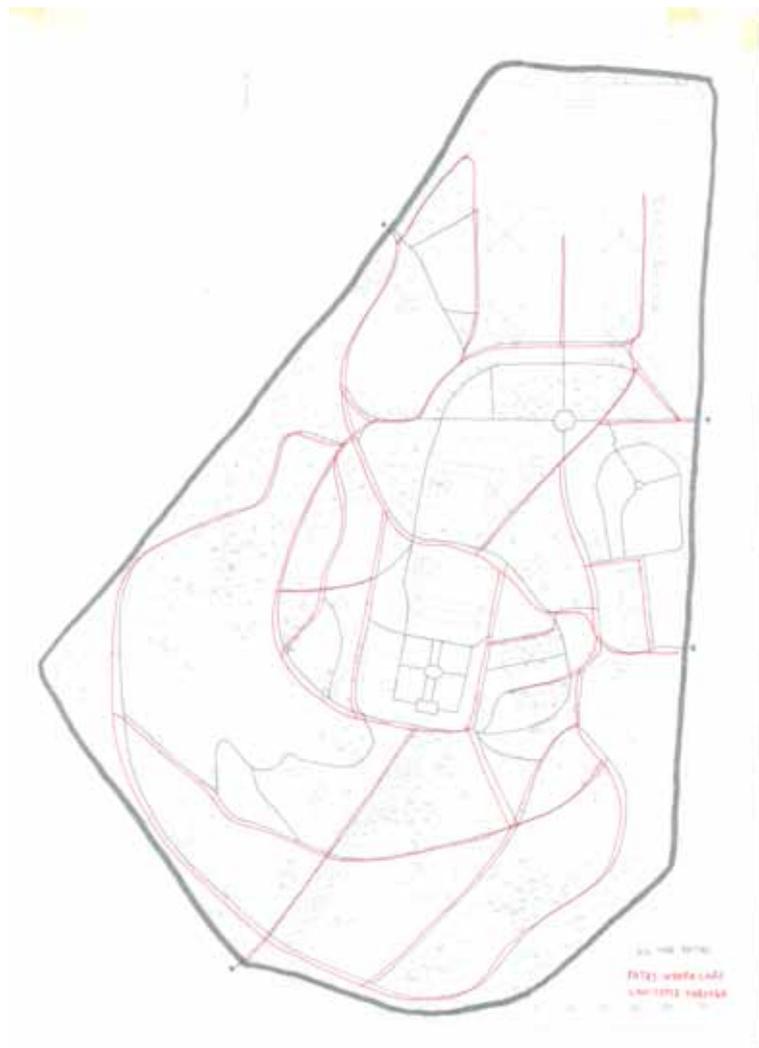
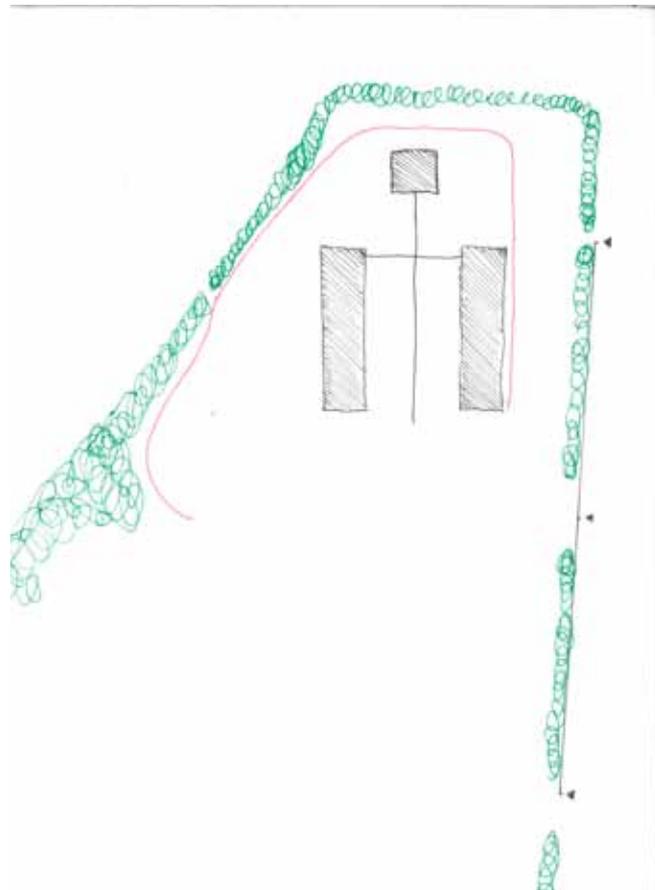
toilets
wardrobe

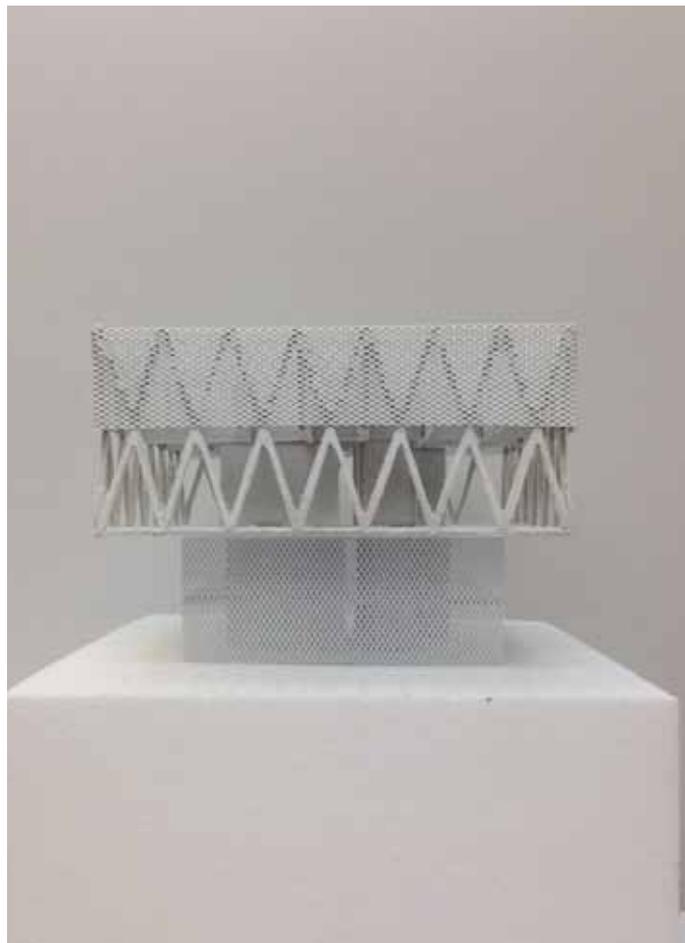
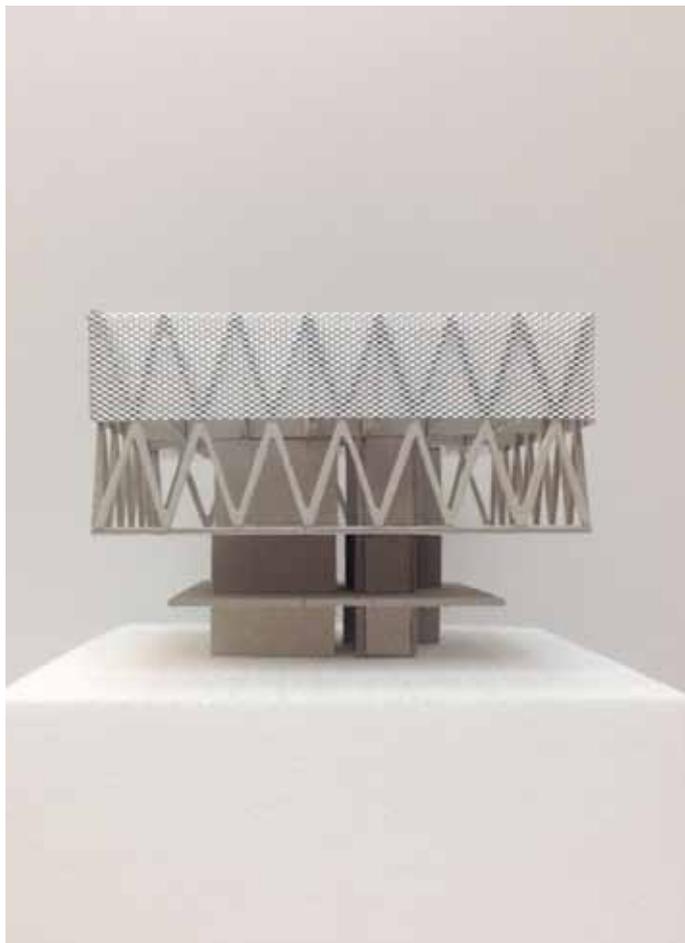










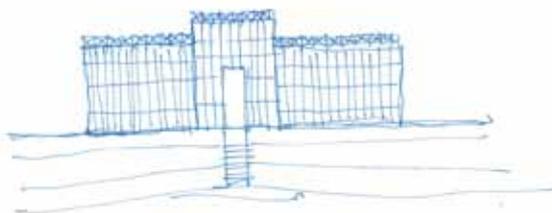




SKETCH BOOK 1

TEE REFERANSE

BERLIN - SCHÖNEBERG, Kgl. Botanischer Garten,
Grosses Palmenhaus.



- initial plan
 - initial facade
 - hydraulic group
 - gutters & drainage
 - concrete 2-07.
- at start of spans volume
+
at site of ductlet volume

can I take one indigenous plant from each climate and develop a special concept around the properties of the plant?

WEEK 34 CONSTRUCTION & TECHNICAL SOLUTIONS

How can we construct large open spaces?

What kind of conditions does each climate need?
light, orientation, material, type of atmosphere
(warm, humid, dry etc...). MAKE LISTS!

Can I use glass in different ways? degree of transparency, different facade systems?

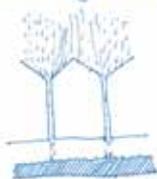
How can we ventilate such spaces?

How can we warm up-cool down such spaces?

WORKSHOP RESULT

- make a list of conditions.
- make a serie of drawings that illustrates the different aspects of the project.
- gather the information in one document.

White reflecting surfaces are very good for the ~~subtropical~~ plants in the glasshouse. It catches and distributes light in a very good and effective way.



the roof rainwater flows from the gutters down through the hollow iron columns that support the roof. The water runs all the way down to a large water tank underground.

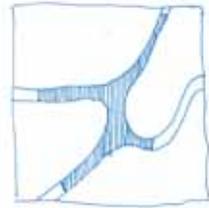
The water is then brought to the plants with a forcing pump.

maybe some columns can take the rainwater from the roof, while others can be pumped with warm water that distributes the heating?

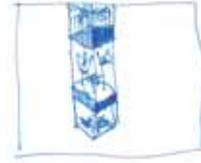
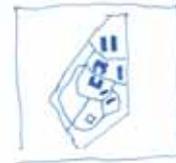
	TROPICAL-RAINFORREST	CLOUD FOREST	MEDITERRANEAN	DESERT	ARCTIC
ideal orientation	SOUTH SOUTHWEST	EAST	EAST, WEST WEST	SOUTH SOUTHWEST	NORTH
amount of light	HIGH +	MEDIUM	HIGH +	HIGH	LOW
material	translucent	partly translucent	partly translucent	translucent	can be quite dark, but could have a translucent strip
atmosphere	WET HOT	HOT HUMID/ MOIST	WARM DRY	HOT DRY	COLD DRY
plant community	Forest Palms	THREAT Ferns, ferns, orchids	GRAPPAAL	CACTI	TUNDRA



garden along the path



the garden is the path



can the garden be organized as a high rise?

1700-1750

- * First greenhouses were small, had a masonry retaining wall to north and solid roof. Used primitive stoves or smoke flues. To strong radiation heat, uneven distribution of heat.
- * Evolved with more glass in the facades, still solid north wall with no windows, but now a free-standing building. Single glazed windows created heat loss.

1800

- * development of hot-water and steam heating made possible for free-standing houses with glass on all sides. The system spreads steam.
- * Hot-water heating: water is boiled in a heater placed outside the house, and was fed through pipes below the plants. WATER CIRCULATION, hot and cold water is in a system of interconnected pipes in which water stands at equal levels in all branches.
- * Flue heating: uniform and continuous heating of the spaces. The heating system consists of clay or fire-clay ducts, of circular or square sections inserted in to each other so that they are gas-tight. They lay partly in the ground and partly above.
- * First the circulation could only go horizontally, but the discovery of Siphon, led to the use of vertical circulation too.

- * 1830. A.M. Parkin's high pressure system. Before water could not be heated above boiling point. Now the pipes were hermetically sealed and strong enough not to burst. The system allowed for higher temperature and faster circulation.

- * Steam heating uses perforated pipes to release and distribute heat. To lay the pipes on a bed of stone so that the stone is heated. The stone were warmed up to steam temperature, and the heat stored in them is sufficient to heat a planthouse that is small. The steam heating system showed to be inefficient because it created to high temperatures in their room. The air dried out quickly, the high level of radiant heat damaged the plants.

- * A hybrid was later developed, steam pipes surrounded by pipes containing water. System that of heat exchange between steam and water.

- * Hot-air heating.

CLIMATE & ARCHITECTURE

HOT AND COLD

The building primarily receives its heat from solar heat, earth's heat (geothermal and radiant) and the house's own heat supply (heating system, electricity consumption and human body heat).

The house loses heat through heat conduction, radiation, ventilation and evaporation.



Solar radiation is transferred directly to the building through internal and external surfaces. The external surfaces absorb and transfer the heat to the interior space. The effect of the sun's radiation varies with the heat conditions, orientation and the surface properties of the material.



The relatively constant temperature below the EARTH'S SURFACE (geothermal energy), it can be exploited for heating and cooling. The high heat of earth's deeper levels can be exploited by pumping hot subsoil water up to the building while sending cool water back to the ground.

HEAT CONDUCTION (warm retaining) is the primary reason for heat loss. Heat is conducted through the building's outer walls and roof and lost to the surroundings. Insulation is needed to protect the structure to keep the heat in or outside the building.

HEAT RADIATION: Radiation that hits a surface will either reflect or absorb the heat. Light and shiny ~~materials~~ surfaces normally have higher reflectance than dark and matt ones.
Absorbent → black = reflectance of zero.

The cooling effect from Evaporation is known from the nature of the human body (sweat). It occurs under high external heat.

The sweat settles in the skin and evaporates during heat, releasing this heat has a cooling effect. In buildings we can use WATER to create the same effect. When water evaporates in the room it thereby lowers the air temperature. We can also spray water over the building's external surfaces to create the same effect.

Buildings with mainly glass have a poor insulating capacity, it is like a direct reflection of the surrounding climate. The building warms up quickly in the morning and cool down quickly after the sun sets.

If the thickness of the facades increase a little, it delays the temperature variation by several hours. This can be done by creating a facade with several sections, separated by air and layers of glass.

The combination of materials (light and heavy) can optimize the thermal zone of the building. We can see the different climatic zones as independent structures made from materials fitting to the temperature and atmosphere that is needed.

Heavy stone have a great heat accumulating capacity. High daytime temperature heats up the stone, the stone releases the heat through the day.

Just as a heavy stone material with great heat accumulating capacity, very light, air filled materials may reduce heat transfer through an external wall. Trapped air is a very bad heat conductor, and can therefore have an insulating effect.

HUMIDITY AND PRECIPITATION

Water is a fundamental aspect to consider in architecture. On one hand houses needs to be protected against its erosive and destructive forces, and on the other, the fluid and ~~collected~~ reflective ~~property~~ character can be used to benefit the architecture. It is a resource that we can use controlling the climate and for aesthetic reasons.

Water is also used for building cooling by utilizing water's evaporation energy and for air cleaning, and binding of air particles through water humidification in air condition systems.

The ability for water to store and emit heat by means of radiators (radiation heat) and convectors (air heat). An equal principle can be used for cooling by means of circulation of cold water.

Materials like glass and metal are completely solid and unable to absorb humidity. Only a few materials are resistant to permanent high humidity. Many types of stone and porous bricks in themselves can tolerate water saturation,

but in combination with fast, the risk of erosion and deformation increases.

Wood is a material that is hygroscopic and is capable of absorbing a considerable amount of moisture. The moisture content should not exceed 20%.

WIND AND VENTILATION

Ventilation and climate systems are energy demanding, they are quickly outdated and expensive to install and operate.

Buildings that are based on natural systems of climate control must conceptually be planned accordingly. This gives the facade new tasks as an interactive provider of air, light and heat in the critical transition between inside and outside.

Throughout the day, the sun heats up the earth, while the sea remains cool, and the warm air rises, the cold breeze flows inwards over the land to replace the warm air. During the night, the opposite happens, and the wind turns.

Being able to use ~~weather~~ clean ~~fresh~~ fresh air and the wind's dynamics can be a positive parameter in architecture.

Air can be drawn in via cold cellar rooms or subterranean ducts or hollow building parts in walls and floors.

Air can be cooled and purified by water evaporation. Cooling by evaporation happens by heat from the air being used when water evaporates and turns from liquid state to water vapour. A reflective water surface creates a condition where air passes across the water surface and humidifies, it is now cooled and purified of dust particles.

Thermal lift

Warm air rises because it is less dense, while cool air will drop correspondingly. We can use thermal lift by making a vertical duct, it is like creating a chimney that transport the air from the bottom of the building to the top.

Light and shadow

We receive three types of light:

Sunlight → brings a lot of heat and hard shadows.

Sky light → comes from the entire sky, but varies whether it comes from a clear blue sky, white clouds or dense dark clouds.

Reflected light → comes from all the surrounding surfaces. Reflected light is always weaker than the light that hits the surface.

Screening can be placed outside, inside or at glass level.

Screening placed outside the glass will ensure that heat stays outside the room.

- screening placed on the inside will bring the heat in the room. The main purpose of this placement should be to filter the light in order to control the heat level.

- screening that is integrated will absorb the light and create significant heat radiation in the room. A double facade will catch this heat and divert it in the desired direction.

A diffused screen such as frosted glass allows a certain amount of light into the room and spreads it evenly out to the room.

Samtale med Neven 24.8

lag me annet enn hva Stein Halvorsen & Lund Hagen driver med. Se på Ishigami og Phillip Rahm, hvordan gode jobber med disse bygginger på en mer subtil måte. Ikke nødvendigvis en form, men hvordan små forskjeller i temperatur gradvis endres i forhold til sine omgivelser: ISHIGAMI'S Inversjons hus. PHILLIP RAHMS hage i Taiwan.

Jobbe med hagen slik den er i dag. Se på de ulike sonene ute i hagen. Hvor tregg bus som er hvor. Kan man finne et spesielt tre eller et forhold som styrer hvor jeg legger meg? Kanskje se på samlingen som botanisk hage allerede har. Vi kan se hele hagen på som små hager ~~spasert~~ sett sammen til en stor hage. Eggene i hagen er også en sammensetning av mange knyttet visjoner. Mange uforsvarelige akser som resten fører til noe, men noen strekker seg aldri helt mot et mål, men blir heller gjort om til en del av et nytt system.

Tullføre disten som jeg har startet på, men jobbe mer bevisst med to-deling av hvert stema. This ett felt handler om Realiteten (forinnvante klima) mens den andre delen handler mer spesifikt om hvordan man kan realisere det innenfor arkitekturen.

Se mer på Hollandske veksthus, de var først ut med eksperimenteringen av kunstig klima. Mye av det mest spennende som oppsto var de rommene under bakken. Finne et fint referanseprosjekt fra Holland.

Hva slags ulike klimatiske forhold finnes i hagen? hva gjør den eksisterende beplantningen med disse forholdene?

Begynne på en kotemodell. Fresse ut landskapet på mandag morgen. legge på treer slik at man ser variasjonene tydelig.

PIET UDOLF

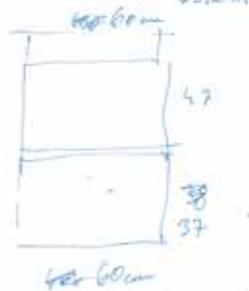
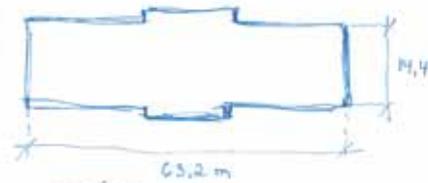
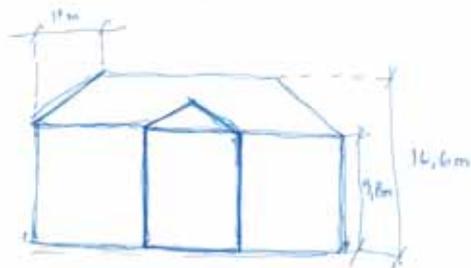
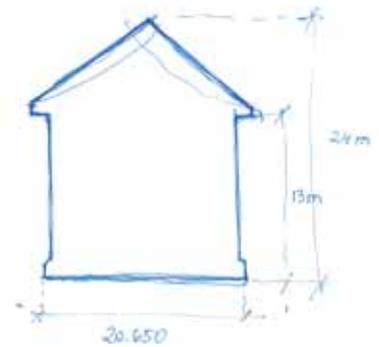
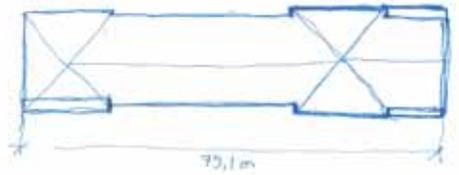
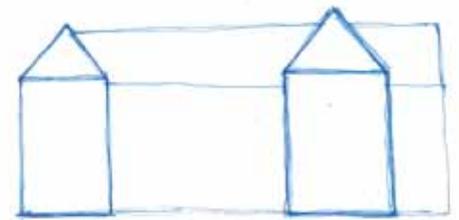
DIETER KINAST
GÜNTHER VOGT

*Nederlandske Hesperides. 1676. A book by Jan Comenius about different dutch winterpalaces.
Pieter de Wolff, Jaan Roeters

*the gardens were environmental machines producing plants... 1.15

Stephan Switcow experimented with sloped glass. The house should be oriented to the south and the wall should decline 20° to east

geologisk museum • Zoologisk museum



Botanisk museum

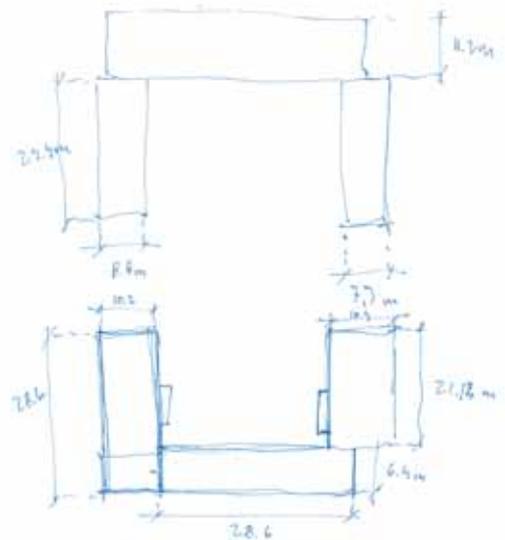
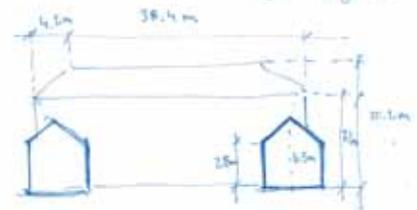


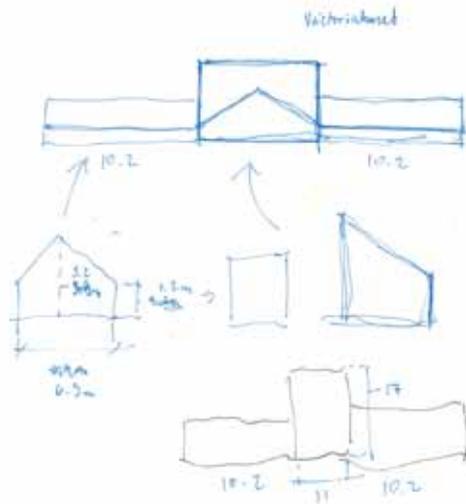
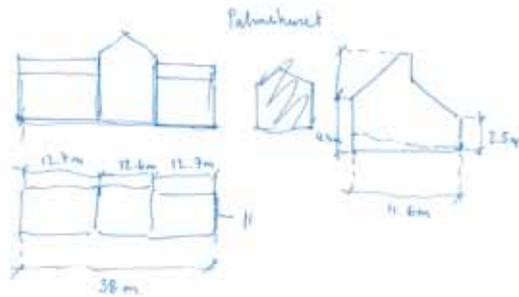
inside space
 $60 \times 11 \text{ m} = 720 \text{ m}^2$
 $+ 32 \times 14 \text{ m} = 504 \text{ m}^2$
 + outside space

Seance has around
 1200 m² of inside
 space + around
 600 m² of
 outside space.

BP73165

Togyn hwydyrd





SKisser av tanker/kart

planteworden vs arkitektur - en total scenery hvor forholdet er 1:1

plante typer
 - tema. rom med ulike spesifikke navn.
 - fragmenter i landskapet
 - et objekt, rom i rom
 - kan stå sammen eller ulike deler av parken.

regel term: Ishigami Moskva
 structure - underjordisk museum
 light
 air
 scenery

skapningen
 veksthus
 Henning Larsen - Børle Marx
 Palmehuset - Børle Marx
 ST10
 Gøtge Børle Marx

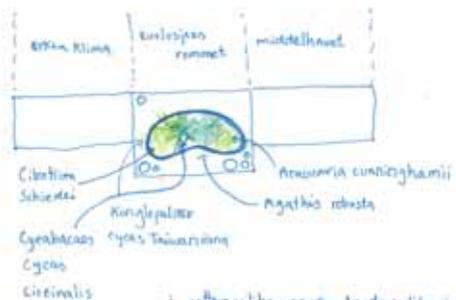


- lage en liste over plantetyper/dildsteder
- størrelser på planter
- miljø forandring i forhold til eksisterende. Utviklelse av hagen.
- undergrunns planter?

temperaturreg
 forskjellige typer strukturer.

ikke detaljert
 site plan.
 - sende mail til Boshers

- cactus
- aloe vera
- Butterfly room
- moss
- moss
- flowers with dille light (underground.)
- winter room with snow?
- Kiaterplanter
- flower room for bees



- i pletter: Libanonsedde, Cedrus libani, Tasmantrakeagae, diomonis anberctica, Podocarpus macrophyllus, Laurus azarica, Metelinia nobilis



week 36

Further focus on registrations

make a more general list of the trees so that the drawing can appear more clear. Graphics vs. real range.



list
big leaf
small leaf
bushes

draw the trees i have registered so far in the situation plan.

The trees and flowers (or areas) that are more important should be more detailed.

The list should in a way compliment the story of the garden.

finish the small model with trees and houses.

make the big model. Should be finished this week.

Yakhchal; Persian "ice pit". An ancient type of evaporative cooler. The building appears above ground, but most of the space is a subterranean storage space. It was often used as storage for ice and sometimes food as well. The ice created itself during the cold season of the year. The water is channelled from the qanat (iranian aqueduct) to the yakhchal and it freezes upon resting inside the structure. Usually a wall is made along an east-west direction close to the yakhchal and the water is channelled from the north side of the wall so that the shadows of the wall keeps the water cool.

The building allows cold air to be poured in from the entries at the base of the structure.

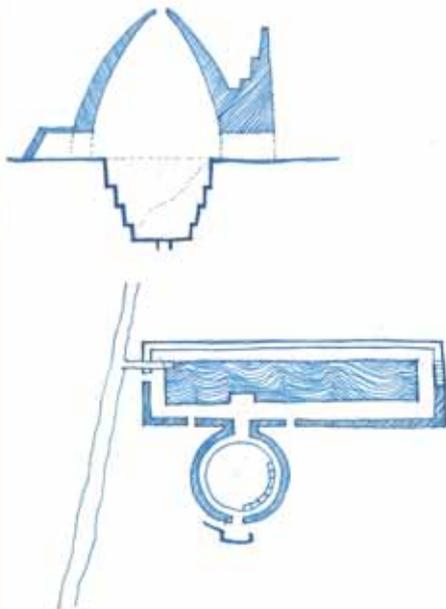
The Yakhchal is build by a water resistant mortar called SAROOJ → sand, clay, egg whites, lime, goat hair and ash.

The material is resistant to heat transfer and completely water tight. Good insulation all year.

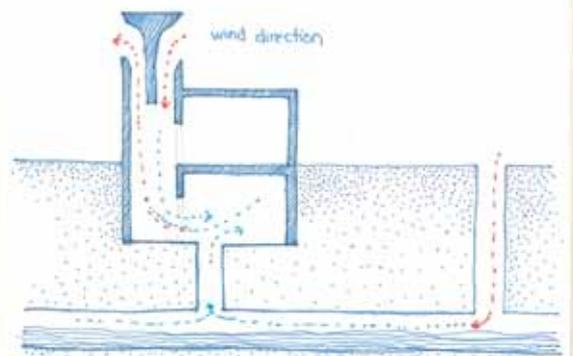
The walls at the base are 2 meters thick

Qanat tunnel system to extract ground water in the desert areas.

YAKH - CHAL



QANAT



A qanat is an underground stream that contains water that is extracted groundwater. The temperature under the ground is more stable and therefore the water is kept cool. When the hot dry air enters the vertical shafts it is cooled as it flows along the water. The wind tower is placed so that wind (blowing through the basement door of the tower) passes over the top of the qanat tunnel. When the air flows from a large passage (the barrel) through a smaller one (the door), its pressure decreases. The pressure of the air from the tower is still diminished when it passes over the top of the tunnel, so that cold moist air from the shaft is entrained by the flow of cooled air from the tower. The mixture of the air from the tower and the qanat circulates through the basement. HOT AIR IS LIGHTER THAN COLD, BECAUSE OF THIS HOT AIR RISES.

□ lag mange volumstudier som diskuterer ulike forslag til både volum og program. Hvor man velger å plassere seg i hagen vil ha noe å si for hva slags program som gir mening å jobbe med. Møttekone burde diskutere hva som skjer når man planerer ulike bygg på ulike steder av tomte.

□ Sendte mail til Tone Lindheim (direktor og landskapsark) tone.lindheim@nrm.no

□ fjerne tegningene av Stein halvosen sitt prosjekt og Hinnahuset

□ ta en avgjørelse, er det forsknings- eller publikumsetet? Tenke over hva som er hovedmålet i prosjektet/følgende resultat

* Botanisk hage - referering av Havn skapsskrivhus, saknummer: 201516264

"TO SEE ARCHITECTURE NOT AS SINGLE, BUT AS ENVIRONMENT, ITSELF."

* Botanisk hage; referering av utstillingsveskhus, saknummer: 201409250

* referering av drift og veskhus, saknummer: 20000776 ref. 199912030

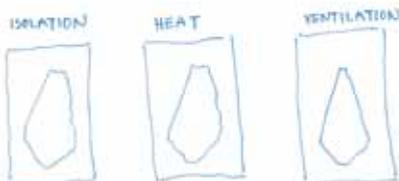
Can the role of architecture be equivalent to changes in the environment?

If we view buildings as shells, inevitably they become immovable barriers separating us from the environment, but if we think of buildings as new environments, perhaps we can find alternative ways for them to endure.

* Look at Bute forests, weather conditions required for the flight of an air plane along a single aerial route. In relation to the idea about the botanical high-rise building. Each floor is different in height and environment. How is the atmosphere layered?

FIND OUT HOW MUCH DIFFERENT MATERIALS ISOLATE

- glass
 - steel
 - concrete
 - stone (different)
- HOW MUCH HEAT CAN THEY STORE?



trees
- how tall? → how dense? → how does wind pass?
monoculture

BAS SMETS
ROBERTO MALVEZZI
"base of one" insectarium

Section and elevations

make an isometric drawing?
- of the diversity of plants and trees in the garden

- make many different options of placement and structures
- take pictures and document the thought process
- make a decision, what is this type of building?
for artist?
for scientist?
for both?

□ = samples of different natures

*type off hagen, ha etter hva jeg legger alle arkitekter? stor ferdig skisse...

hva betyr hvis jeg fjerne av byggen kommer i for rom dette være et drama?

- have a specific idea about what type of plants I am looking for. Maybe the relation to human can be one. Can people be in direct or indirect contact? Maybe the plant have a very specific life cycle, how are they born, how do they live and how do they die? One of these two can lead to interesting architectural solutions.

SPHAGNUM - moss → humid

The material has the ability to absorb 20 times its weight. Used as insulation. Can grow on damp soil, tree bark, rocks, concrete.

1. Arbeids- og forskningscenter. Arkitekt
2. Made bygg som er spreid rundt omkring, bygger videre på hagens historie og vandring. Micro klimaer for publikum
3. Micro klimaer for utrydningstruede planter. Arbeid på innsiden. Kan ses fra utsiden av besøkende.
4. Insectarium. Bygger videre på ideen om sommerfugl rommet. Kan jeg ha flere slike rom? kanskje tre forskjellige stype habitat/vinterer som krever ulike miljøer for mennesket å forholde seg til miljøet på.

14. september

Redegjøre for de tre (eller fire) forskjellige konseptene.

- klart og tydelig hva programmet er
- hva slags dema de dreier
- hvilken relasjon til hagen de har

Gjøre ferdig 1750 modell

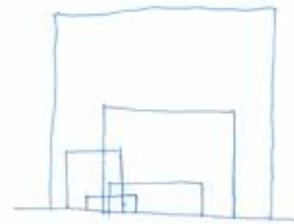
Gjøre volumstudier med de ulike konseptene

- dokumentere med bilder og kommentarer til bildene som diskuterer hva de ulike konseptene gjør for hagen.

Faaktfore Oslo forhold, lista, gjenstår å finne solvinkler

Starte på de tre diagrammene over forhold i hagen

- isolasjon → tær og hus
- varme → væksth
- ventilasjon → vind



rom i rom



to ulike med en forbindelse



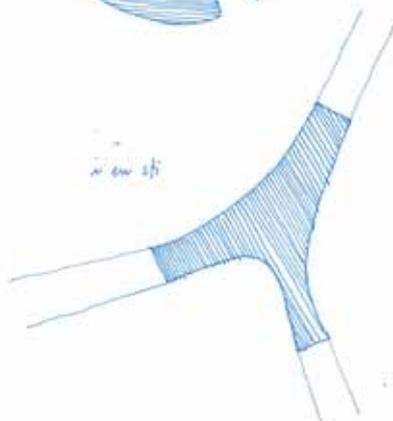
mange små ulike



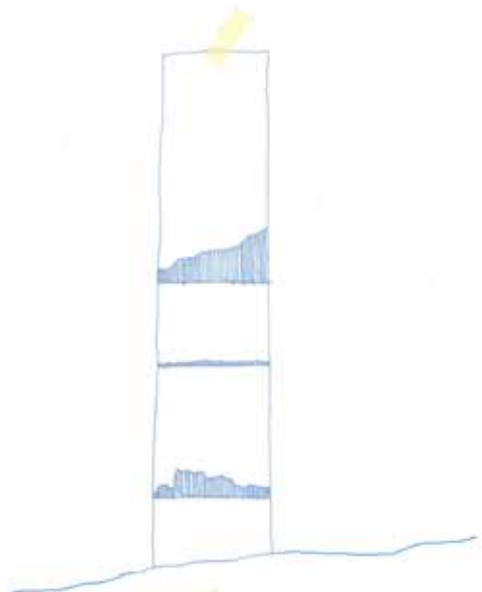
mange små ulike



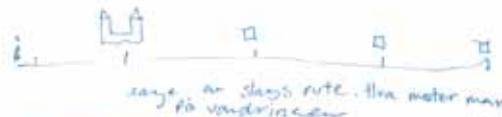
langs en sti



i en sti



den botanical high-rise



- Være mere specifik i undersøgelserne
- Læg klare strategier, er byggede i rygsæsningspunkt langs stierne, på tværs af stierne, organiseret i en lille by, i specifikke plante miljøer.
- Være klar på specifikt hvilken er undersøgelserne for sig!

• Se på enkelte kager!

- begynde i skitse i plan.
- hvornår skal der bygges?
- hvorfor skal der bygges?

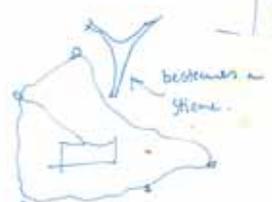


- 40 billeder
- som en katalog af muligheder.
- Kommentarer.

Enkelt begreb et broderet, vi vil tage med os som styrer sig i landskabet, tilfældige punkter på vejen, og fremadlæse materialet om strategier.

planlægning - konstruktive materialer bestemmer planlægning.

Kombinere forskning og kunst



bestemmes af stierne - byggede klinger som veje som styrer

THE ENGLISH GARDEN

The English garden idealizes the view of the ~~the~~ nature. It often includes a ~~lake~~ lake, temples, groves, tea-houses, pavilions, constructed ruins, bridges and statues. Low cut grass set against groves of trees. The garden drew inspiration from landscape paintings.



the castle
the paths
the pavilions

where the buildings are placed is decided by the underlying system of the buildings that exist.

the size, material, structure and materials of the buildings is decided by the plant/furniture that is to be inside.

what type of climate is going where is decided by the specific climate condition of the place.

Do I want to fundamentally change the garden?
or to enhance the garden as it is today?

three concepts

hertfordshire - two rooms, two atmospheres, two samples of nature, two species. The human moves in between and relates to the two spaces in different ways. Seen from the outside the buildings are the same, but how they work internally is completely different.

Five micro climates - each house is dimensioned according to the plant and the structure as well. How the plants are shown varies depending on what is interesting to read about the plant. Some places share a just protection by freestanding walls, others can be partially inside and outside, another can be completely underground or yet another can be suspended above the ground and among the treetops.

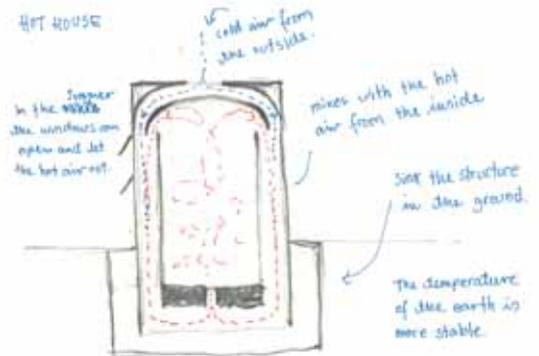
New research center - scientist working conservatory - One main building and several small micro climates spread out in the garden. Main building is dominated by specific systems that relates to the way the scientist work with the plants. The micro climates are parts of the research center brought out to the public, these buildings can only be entered by the scientists and spectators from the outside by visitors.

- Juncus biene
- Salix arctica → arctic willow
- Arctostaphylos uva-ursi → bearberry
- Urtica gigantica → arctic moss
- Salix planchonii → diamond leaf willow
- Rhododendron greenlandicum → Labrador tea
- Polypodium vulgare → lungwort
- Saxifraga caespitosa → tufted saxifrage



How can we use architecture to design spaces for the interchangeable elements of nature such as air?

HOT HOUSE



dry → warm
dry → cold
mist → hot
temperated

BESLAG 1

Storre program, nord for tomta

BESLAG 2

små volumer spredd i hagen, ulike logikker, klare klare logikker!

- ARKENTER (bygg organisert etter eksisterende akse/veier)
- Stier (en spesiell rute som man legger opp stil å kote)
- historie (jobbe med grupper av trær, fine kulturrende familie som ikke hadde vært mulig å bygge uten arkitekturen)

Stewartia pseudocornuta var. koenigii - Korea
Catalpa speciosa - USA
Picea Sitchensis - Alaska
Pinus resinosa - Korea
comes from the same class (mammacephala). Asterisks
Trees from the pines family

PRESENTATIONS 010

Alfred Caldwell

refleksjoner

- velge ett av forslagene
- lage modeller i 1:20 evtl 1:10

Jeg er mer intervert i å lage mange små bygg i hagen. Dette programmet gir meg mye større frihet til å eksperimentere med typologi og hvordan planter kan påvirke arkitekturen direkte.

Hvordan kan planter og deres egenskaper være med på å forme arkitekturen? Hvordan kan deres egenskaper være med på å forme arkitekturen? Parameterne av plantene vil nødvendigvis ikke gi meg noen føringer direkte på hvordan arkitekturen blir, men det som kommer en viss subjektivitet inn i bilde. Hvordan vil vanlige rommet se ut og hvorfor er den utformet på en annen måte enn magnolia og rose? Kan stje jeg trenger å fore opp noen parametre for arkitekturen?

- characteristics of the shape?
- size of the plant?
Shape of the leaves?
- main purpose?
can we extract something from this plant?
what type of nature/habitat?
- amount of light?
can they be alone or do they need to be in groups?
- texture?
colour?
changes in season?
- roots of the plant?/structure

water lily → aquatic plant → tropical climate
magnolia → floating → Nymphaea odorata

Pine → pointy → spreads out → evergreen

Moss → flowerless plants → grows in the shade
0.2 - 10 cm tall → carpet like → arctic? follows the terrain

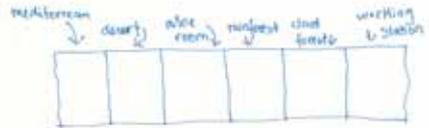
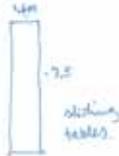
aloe vera → 60-150 cm → spreads out → desert climate



this structure is about 2700 m²

Insectarium and re-search center

museum shop and ticket: 200 m²
 research: 1200 m²
 insectarium: 1300 m²



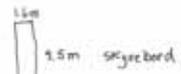
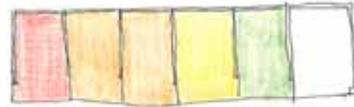
an insectarium is an exhibition of live insects and their habitat. It can look very similar to a Palm house, but the ~~compositions~~ plants are mainly composed because of their usefulness for the insect that is inside. In many cases the insectarium is also just a museum building that shows the different species and tell the story of them.

The re-search center is organized in a systematic matter. Tables with specific size and materials has to be easy to wash.

SKETCH BOOK 2

Et nytt forsknings- og arbeidsretisthus i Universitetets Botaniske hage.

Området i dag har ca 600 m² utareal hvor det dyrkes og 1200 m² inneareal med veksthus i ulike klima soner.



totalt 40 bord i hele anlegget, ca. 600 m² med bord areal

PROGRAM

- + arbeidsrom med planter fra middelhavet
 - labrom
 - kontor
 - oppbevaring
- + arbeidsrom med planter fra orkanet (karib)
 - labrom
 - kontor
 - oppbevaring
- + arbeidsrom med planter (alder)
 - labrom
 - kontor
 - oppbevaring
- + arbeidsrom med planter fra regnskogen
 - labrom
 - kontor
 - oppbevaring
- + arbeidsrom med planter fra takkstogen
 - labrom
 - kontor
 - oppbevaring
- + arbeidsrom med planter fra arktisk klima
 - labrom
 - kontor
 - oppbevaring
- + sommerfugl rom med planter
 - labrom
 - kontor
 - oppbevaring

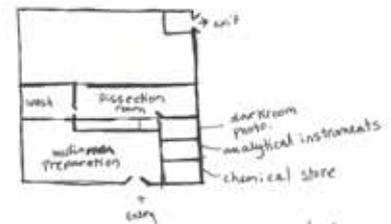
- + Fellesrom for alle forskerne
 - materom
 - spiserom
 - garderobes

(learings center?)
 Kan man komme hit som besøkende i lære om forskning, arbeidet?

- + Rom med alder planter
 - labrom
 - kontor
 - oppbevaring

- + plant stamme culture Lab (underground)

has to be completely controlled area. No natural light!

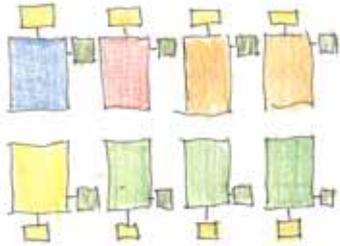


prinsipiell plan ca. 200 m²

- + lagring av frø



planteroom
kontor og lab
oppbevaring



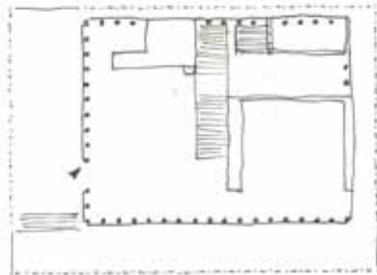
Alle sonene bør kunne se litt like ut, men atmosfæren i de planterommene er helt forskjellig, og plantene er forskjellige. Et system av repetisjon, til synet utendørs, men livet i dem er helt ulikt.

ved å si at jeg skal jobbe med et forskningscenter skifter jeg fokuset fra versthus som tema til å begynne å snakke om betydningen av botaniske hager som institusjon. FORTELLE LIT MER OM DEN HISTORISKE UTVIKLINGEN AV HAGEN. HVA DET STARTER SOM OG HVA DET HAR UTVIKLET SEG TIL Å BLI DAG. BETYDNINGEN AV HAGEN I DAG SOM EN BASE PÅ FØRSTNING, KONSERVERING OG LAGRING.

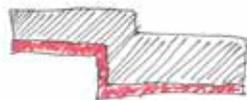
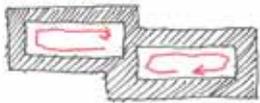
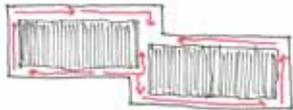
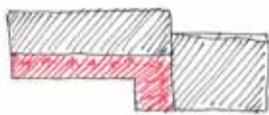
Skrive om formuleringen av diplomaen



Der er ender vegger
og søylestruktur!

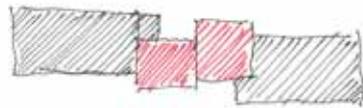
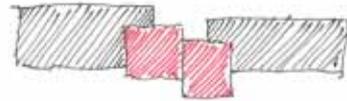
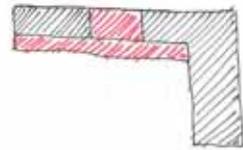


En søylestruktur
med tre bærende
fjerner og treff i
midten.



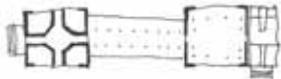
ni Holmbyen

L-formet



flere afviklede volumer

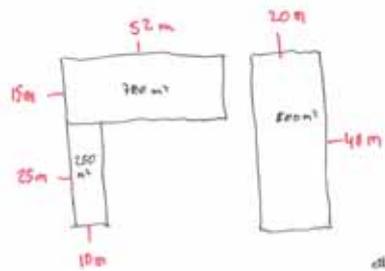
PLAN TARKANSK OG ARKADISKE MUSEUM



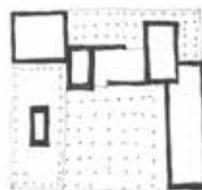
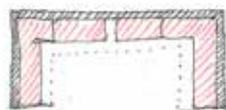
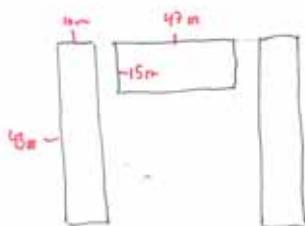
• delbarret lita kvadrater,
• åpen struktur med søyler
og den andre med bærende
vegger som er mer lukket.
• en palladiansk plan?



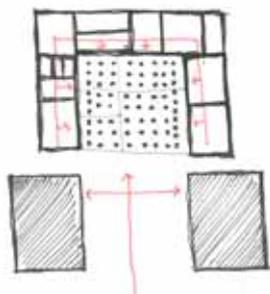
jobbe med flere av disse
strukturene og varier med høyder
og avstand til de eksisterende.



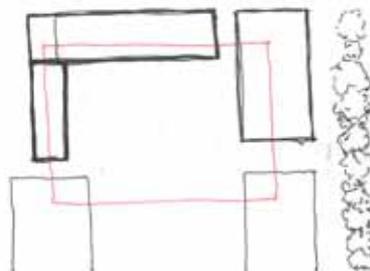
alt plan: 1850 m²



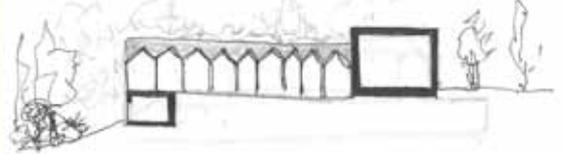
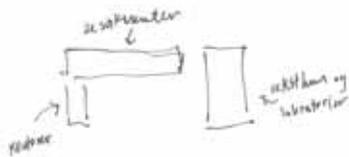
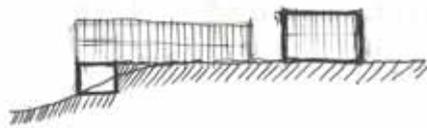
en del av bygget er teglet og
 hvordan vegger, tak og
 representasjon av disse konstruksjonene
 månes de ulike regionene er det.



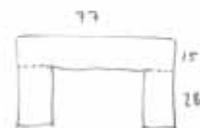
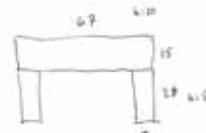
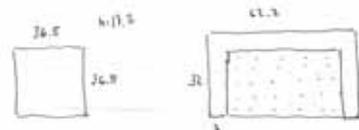
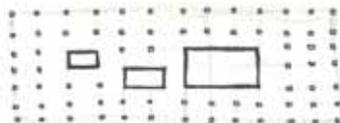
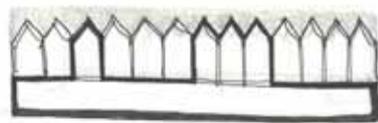
de ulike utvalgte stasjonene
 hele planene som et skott rom som
 er organisert av lag med glass.
 alle sonene er i sammen, men
 alle skillelinjene og konstruksjonen
 er plassert på utvidet og utvidet
 hele planene

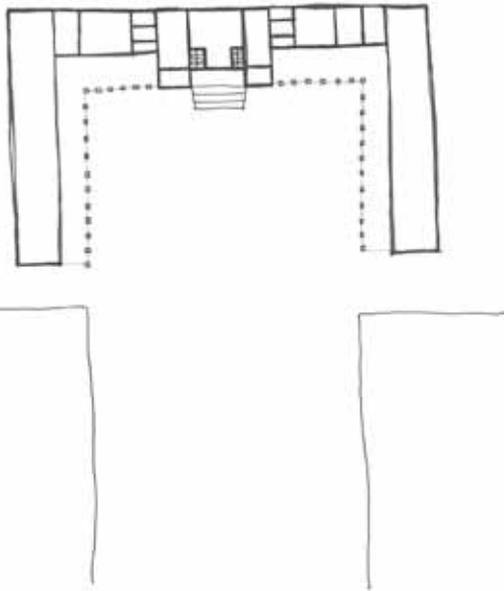


hvilken kin vi organiserer de ulike
 delene av programmet på utvidet og
 "profyllet"? Kan det være en sammen-
 hengende gangvei i kjeller etagen som
 "500" er kjeller del museene?



Verstaakt beton met glas, plumben
 bars en glas og skifformet som repeteres.
 Et åbent stort rum hvor alle klædeskabe
 opstod i det samme landskab, reformer
 til det udsigten over arkitekturens opstod
 på en mere organisk måde i et rum
 rum, hvor alle de organismer eller kulturel
 rum som rummet hvor forholdet til
 bevarer. Apollon rummet er et rum
 uden for bevarer med et samment
 materiale.
 Dimensioner rummet af de arkitekturen.
 for mange glæde skaber rummet de to.





visitors center

in the central part of the building
 contact with the outside spaces
 contact with lab and greenhouses
 an extension of the public plaza

The visitors part is the meeting between the outside world and the research center. It consists of smaller and bigger auditories, a library and reading area, museum. They are the spaces in between and provides views of research and the garden.

greenhouses

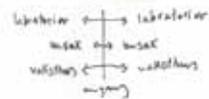
a new way of moving between the different climates
 work environment for scientists and botanists.

contact with the public plaza
 contact with the laboratories and the offices
 in connection to the visitors center

The spaces are pure greenhouse spaces for research and should be placed in a way so that there is constant good light conditions, a more visible part of the botanical garden.

laboratories

partially dark spaces
 the work rooms (media preparation) can have daylight
 the plant culture room must be completely sealed. No daylight
 clean and ventilated spaces



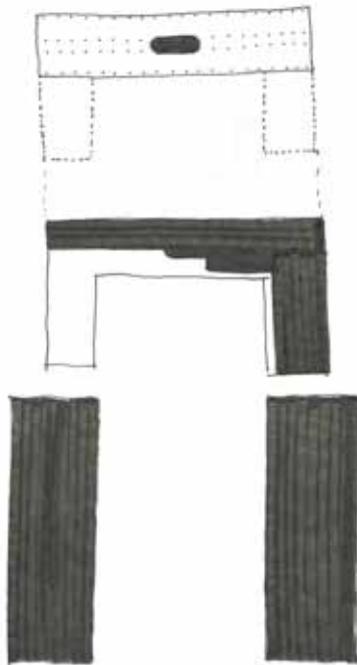
here

valuet er vistest av de nye faktorene
 i byen. Byggene som eksisterer, utstykket
 og uterommet

program er vistest af fra nye vurdere og om
 vil byen maner i dag, hvor de ikke er
 plassert er vistest av kontakt til de nye sone
 og behov for dag.

planprosjekt bestemmer av byggets form og
 slik form for deling og delighet/forstet mellers
 programene.





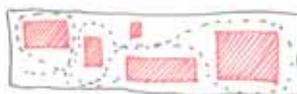
REFLEKSJONER OVER PLANRESA #1

- * akkurat nå så fremstår de to planene som to vidt forskjellige bygg, kan jeg jobbe litt mer i tråd med konstruksjonsprinsipper? Det lette versus det tunge?
- * mangler rekthet til in-vitro plandene
- * flere vertikale kommunikasjonspunkter
- * første etages planer strømper et tydeligere konsept, burde henge godt sammen med vektorene i 2. etg.
- * hvordan den horisontale og vertikale bevegelsen i bygget fungerer
- * hva skjer med de forskjellige uterommene?
- * hvis vektorene bare utgjør en del av bygget, kan jeg da bruke taket til de to små uterommene til å dekke utendørs?
- * hvordan bygget fungerer, det skal burde henge sammen med arbeidet som foregår i hagen.
- * reviderer måten man kommer inn i bygget på, se på trappe situasjonen til museene
- * funksjonene henger dårlig sammen med baksiden, her er det mest av varer, mye av bevegelsen går fra vektorene og videre ut i hagen, kontakt med verden utenfor.

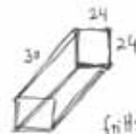
To modeller i volum 

proporsjoner i forhold til de to museene, høyde, bredde, plassering, hvordan fungerer det are objektet i samspill med de to avlange.

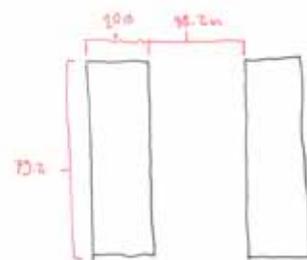
Avslutning av plannen, * fortsettelse av museene, hvordan fungerer det seg på det eksisterende? * hvilket volum vil gjøre plannen fin? Tenk uterom



Museene plassert i en fri plan.

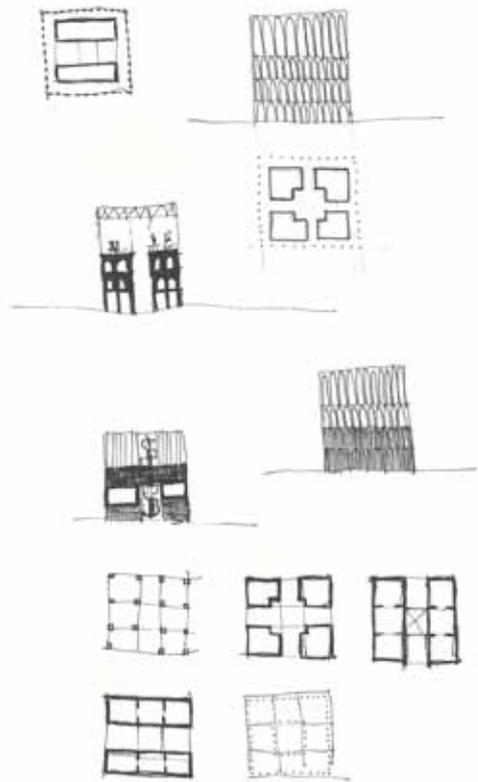


fril stående volumet



- to prinsipielle planer som tar utgangspunkt i de fem forskjellige klimaene.
- Et prinsipielt snitt av bygget

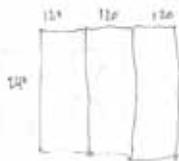
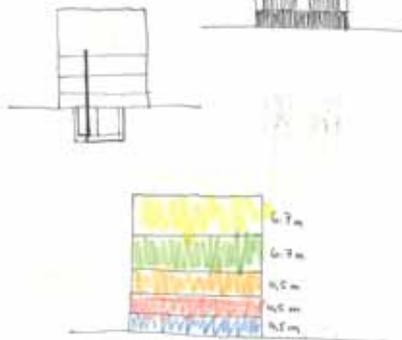
- skal ta for seg
- Væstruktur
 - trappkjerner
 - horisontal kommunikasjon



The spaces are a catalog of plants organized in a particular order and according to climatic zones.

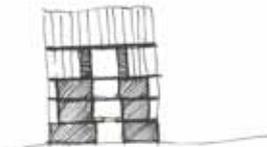
LIBRARY OF PLANTS

THE BOTANICAL HIGHRISE

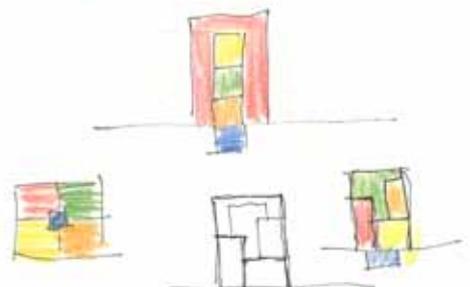


KONSEPT FOR FEM KLIMAZONER

Konsentrere meg om rom for fem klimaer. design snitt!

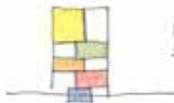


helt bygget er ett klima, de fire andre klimaene er planert inni dette rommet på ulike planer

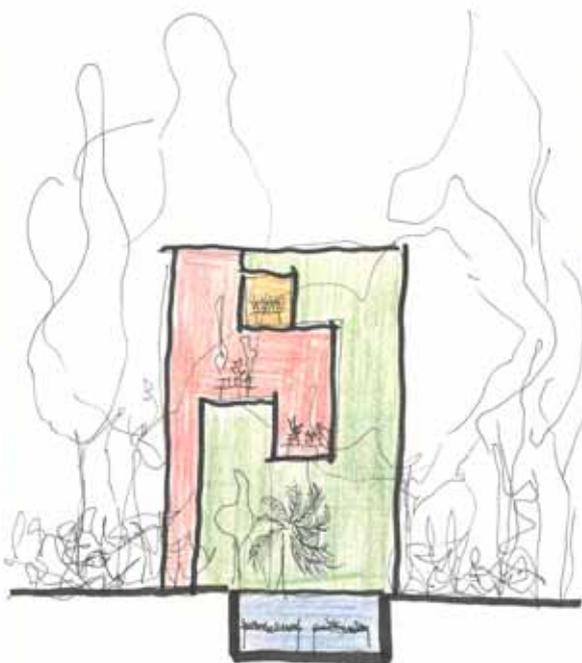
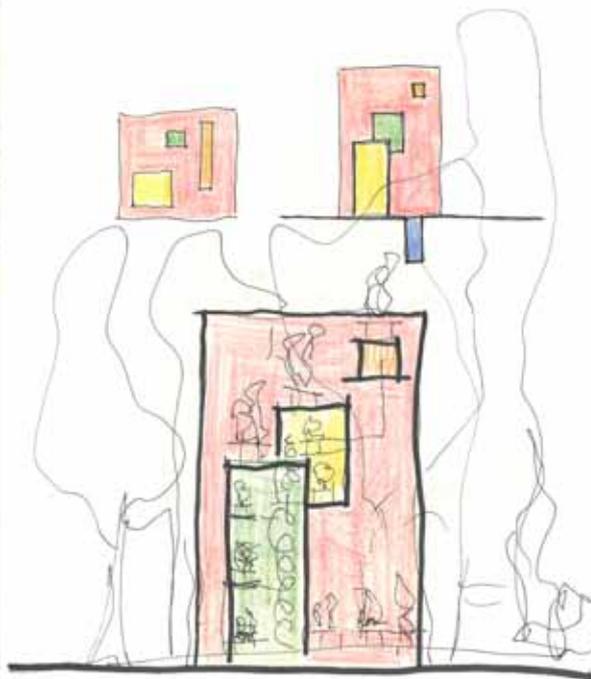


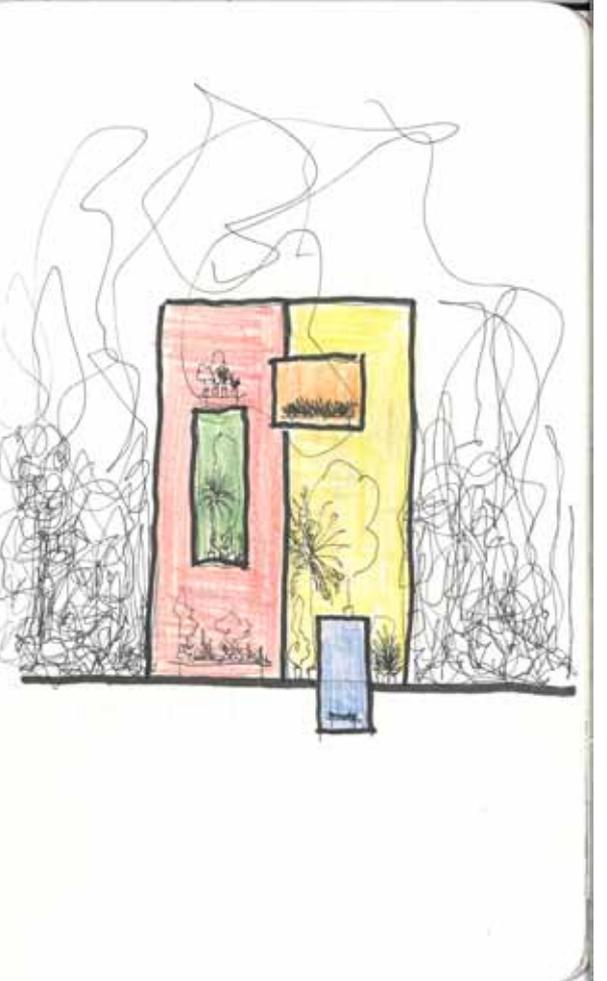
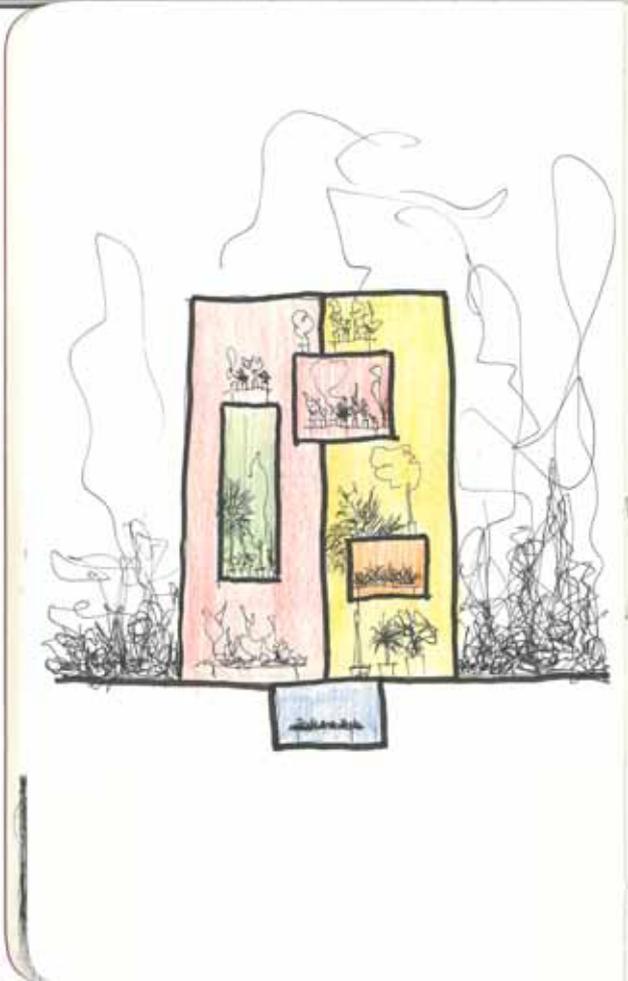
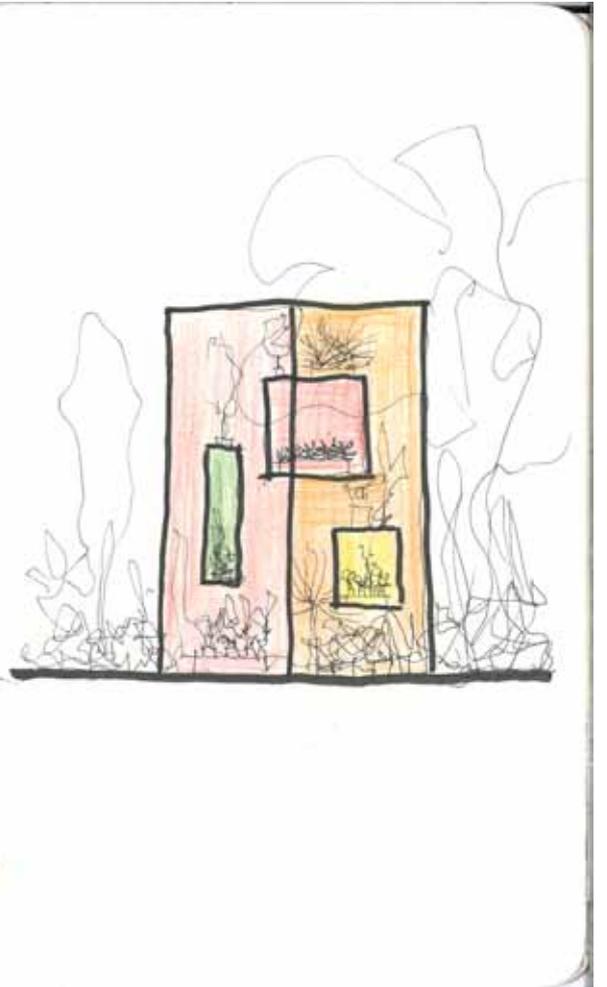
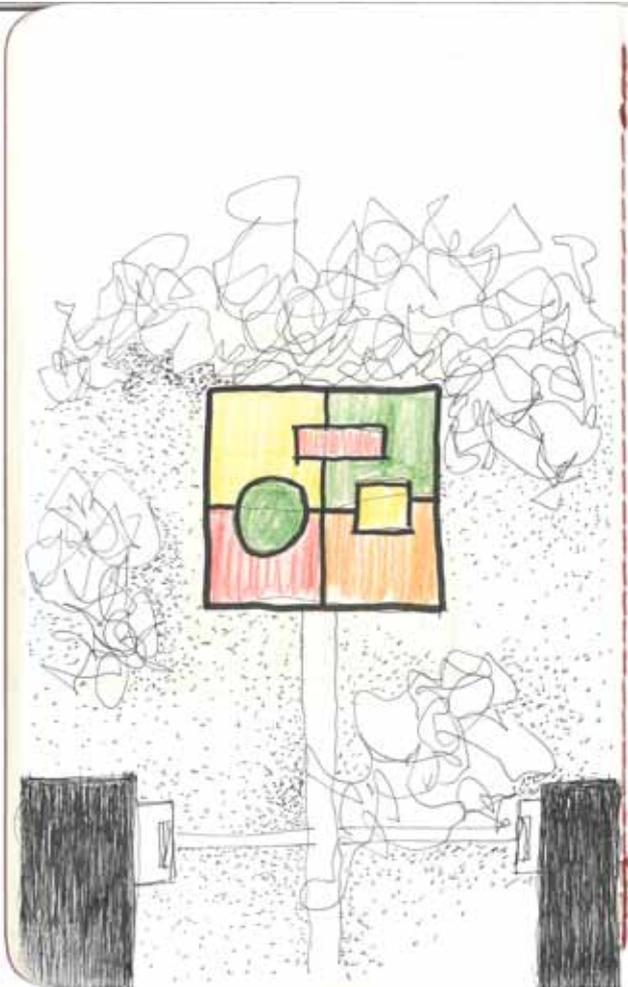


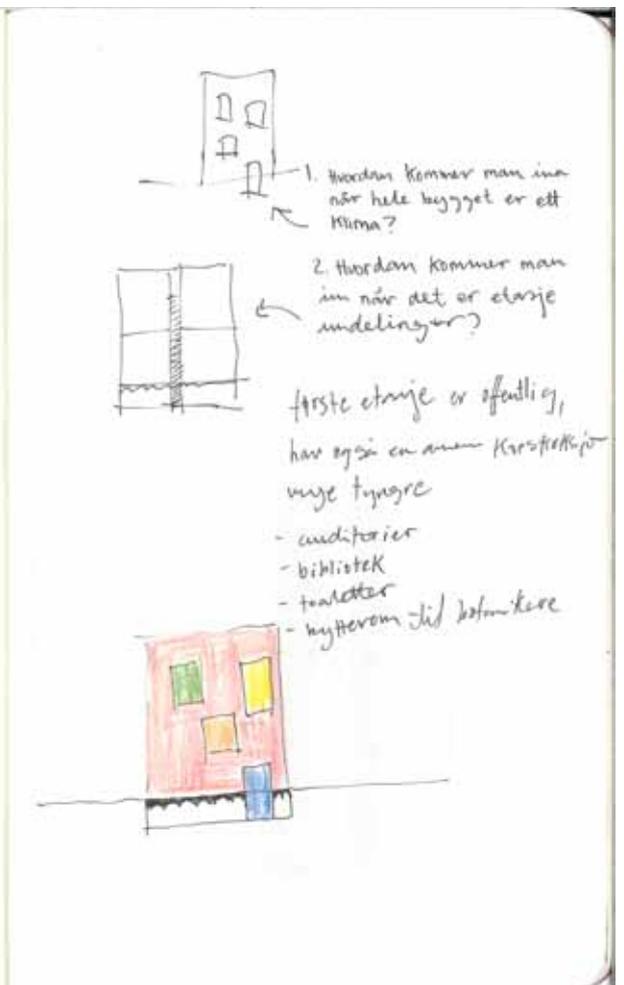
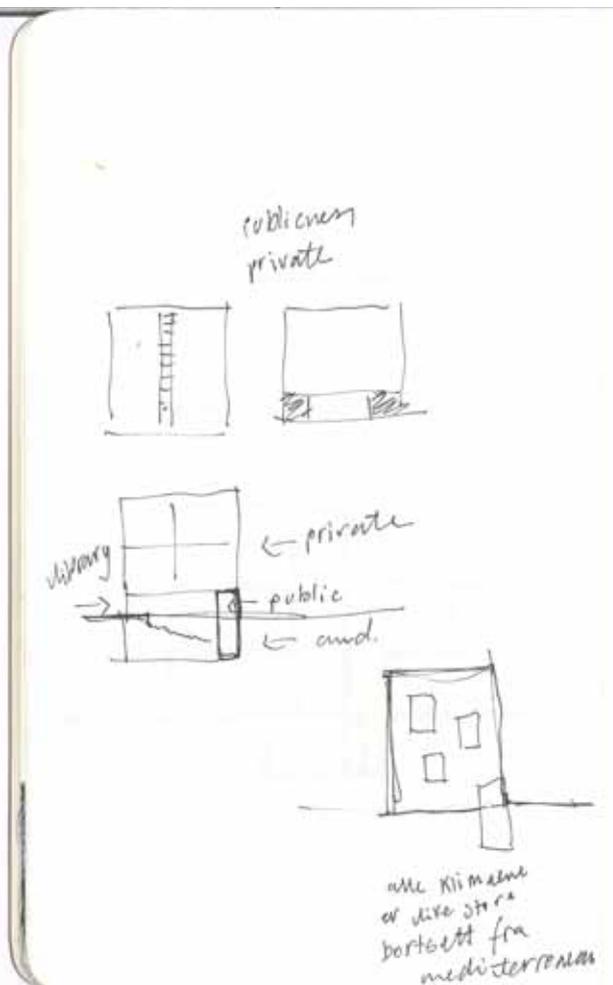
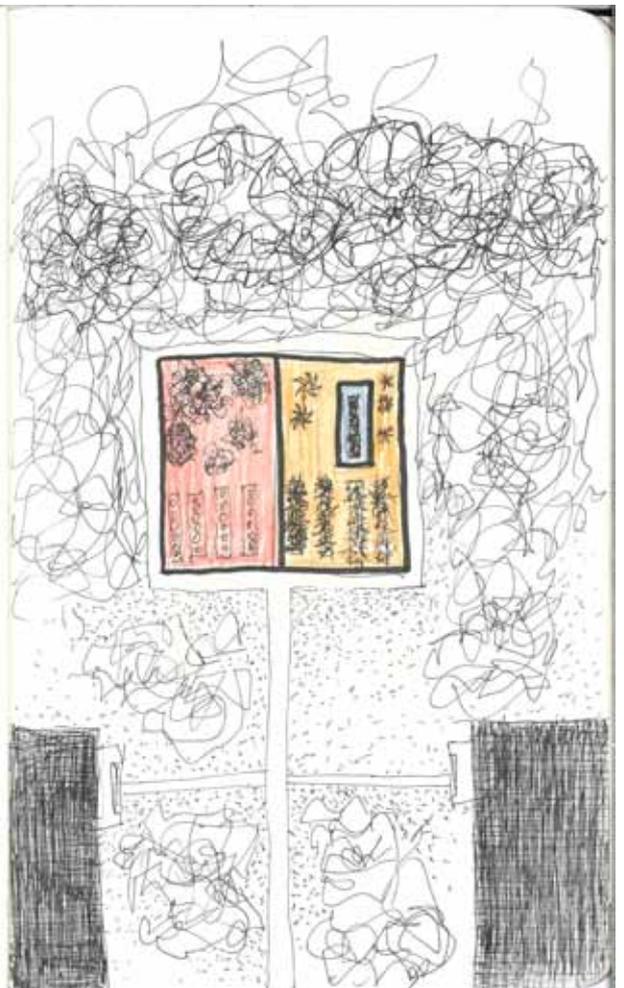
FLORE KLIMARE JAH
ET KLIMA...

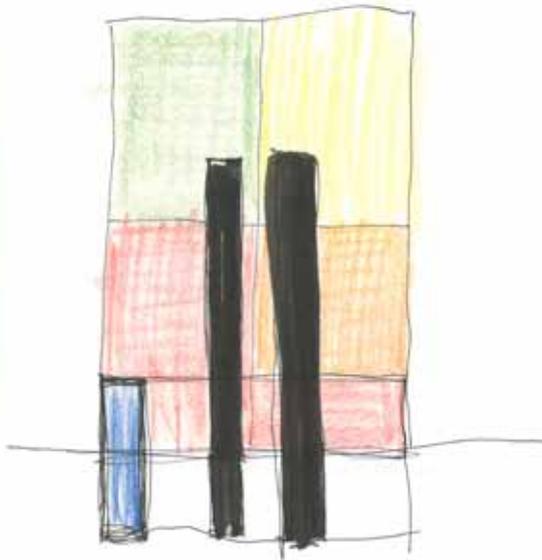
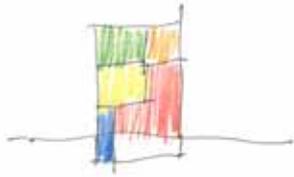


KLIMARE
SABET ANA
SARANDE









0

ingang danskisk
auditorium
garderober
opbevaring af
udstyr.

1

ingang for hagen
bibliotek og seksual
middelklimaet
med jordgulv.

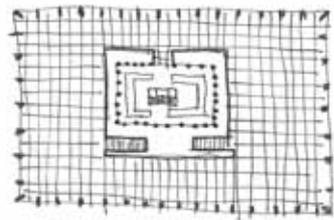
2

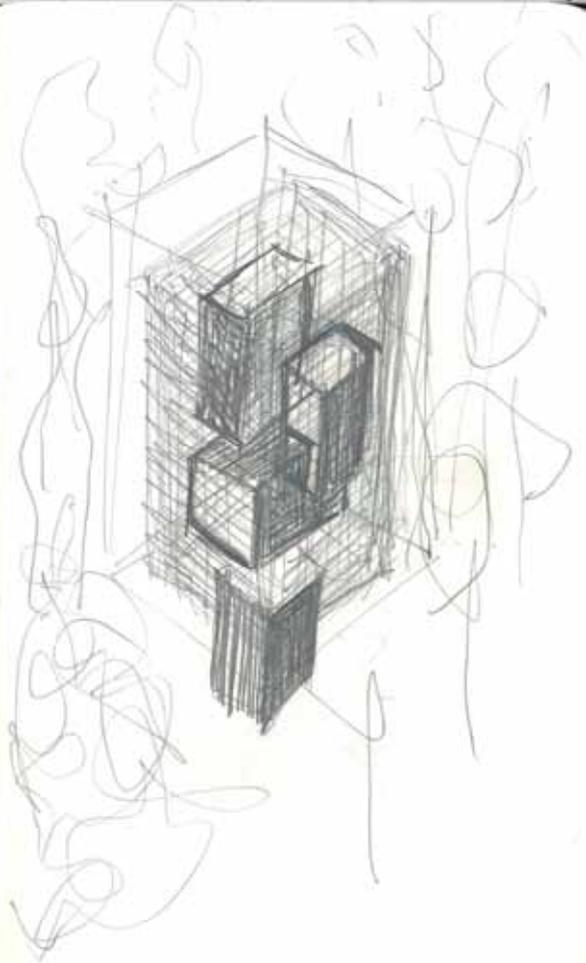
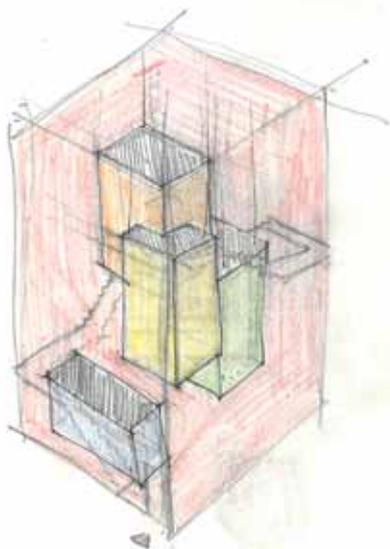
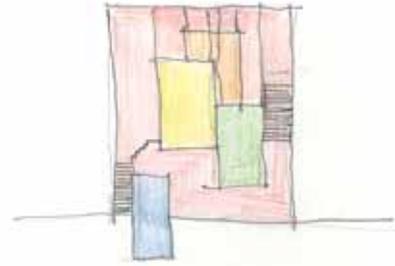
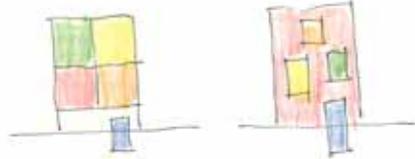
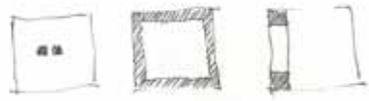
middelklimaet fortsat
har kontakt med
1 etg.
regnskoven.

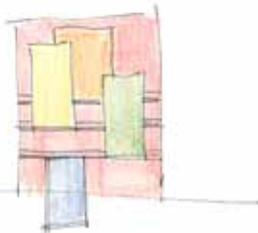
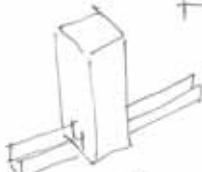
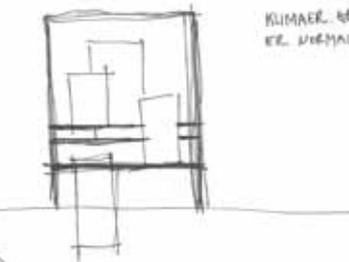
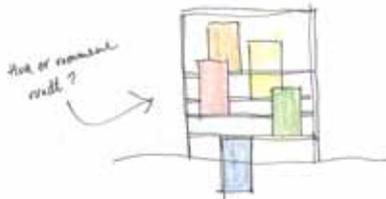
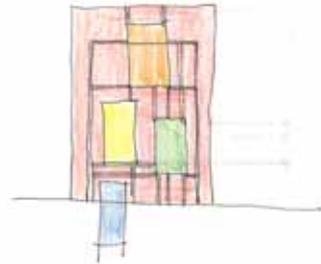
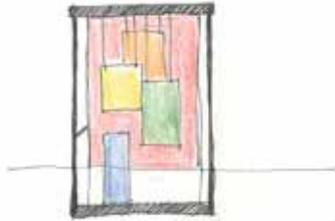
3

cloud forest
resort

BEINECKE RARE BOOK & MANUSCRIPT LIBRARY

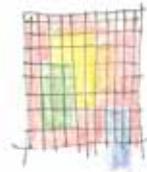






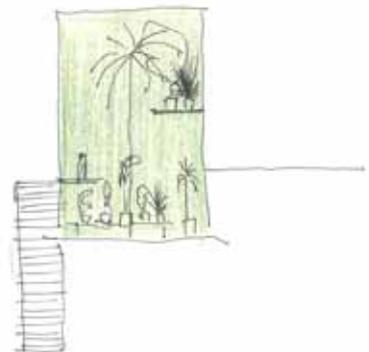
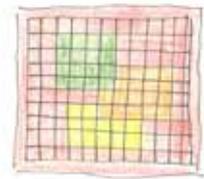
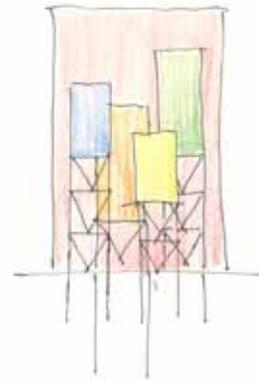
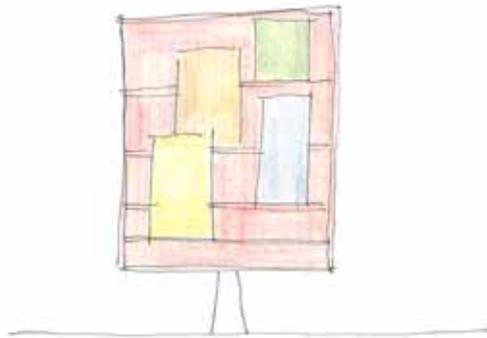
Den Klimi har et
billedsystem som
de fingerer
den bruger.

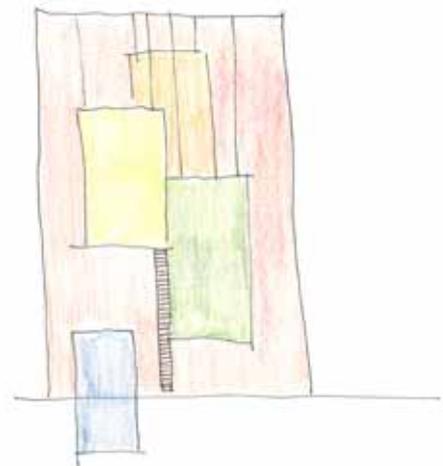
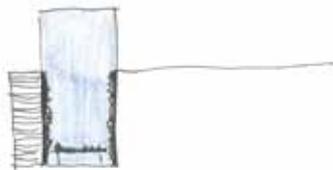
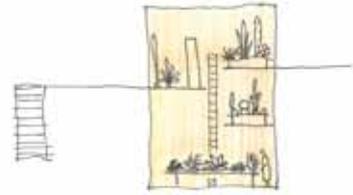
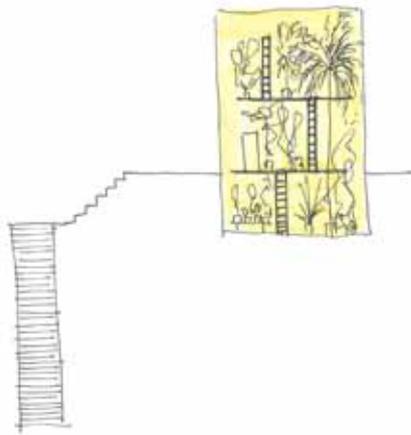
FEM SEPARATE
KLIMAE. BEHØRER
ET VÆRMT TEMPERE.



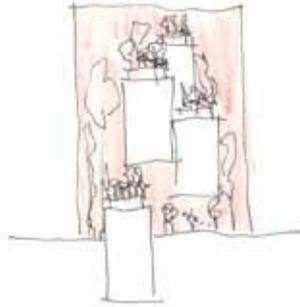
Indersystem i fælles
spise system?
Iglue
repetition

for meget glas vs. stål?

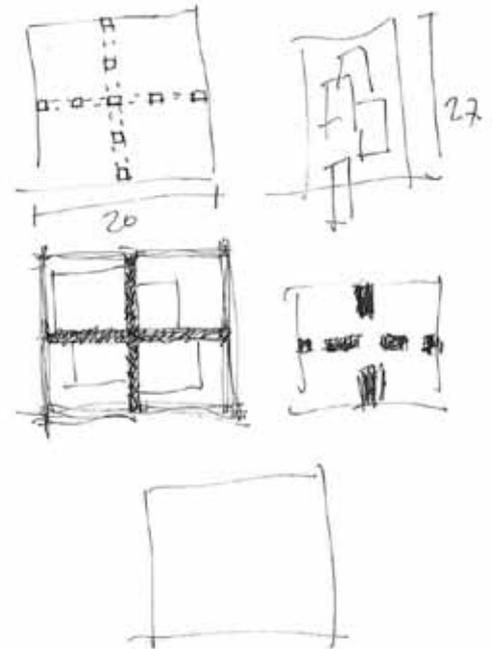




TRAPPELÖÖN / MITTEN
SIN NÖJA BUREAU PÅ TAKET.

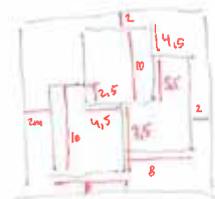


SKETCH BOOK 3



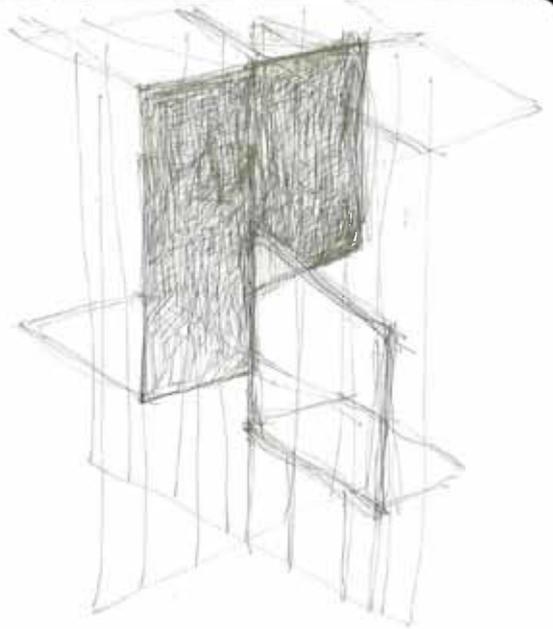
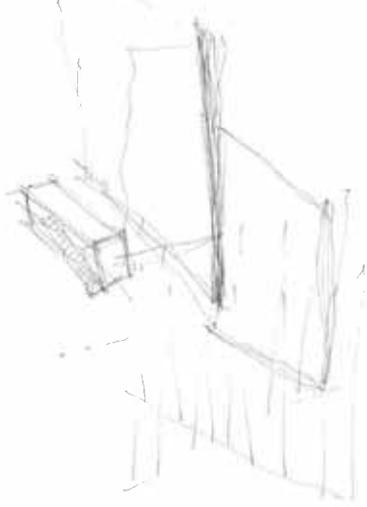
- the wall
- the columns
- the vertical connection

- what is in the first floor?
- How do we enter the space?
- What do we see when we enter?



- tropisk regnskog har størst træ og planter. Trenger de største rummene og mer høyde under taket.
- Tåkeskogen trenger også å være stor og høy.
- Orken kan være lav men mer horisontal
- Middelhavsklima kan være middels høy, 5m er sikkert nok størrelsen burde være stor fordi trærne er bredere og fristående.
- arktisk kan være lav og mørk kan ha kvaliteter som indirekte lys, men hvelvets nedgård å bakken.

1. etg er alt offentlig. du kommer ind til
et stort rum.



Auditorium space is a part of the
large, open room. It is in the connection
between the ground floor and the lower
level. In the background of this picture
you can observe the ongoing research
in the arctic department.

Vertical landscape
The botanical highrise
Botanical center
Library of plants

Science
research
plants
work
greenhouse
botany
eco systems
world climates

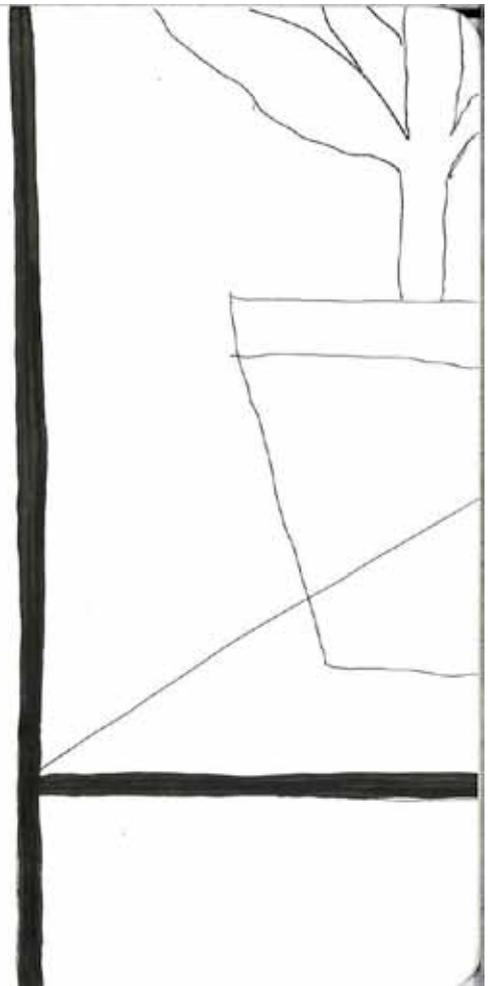
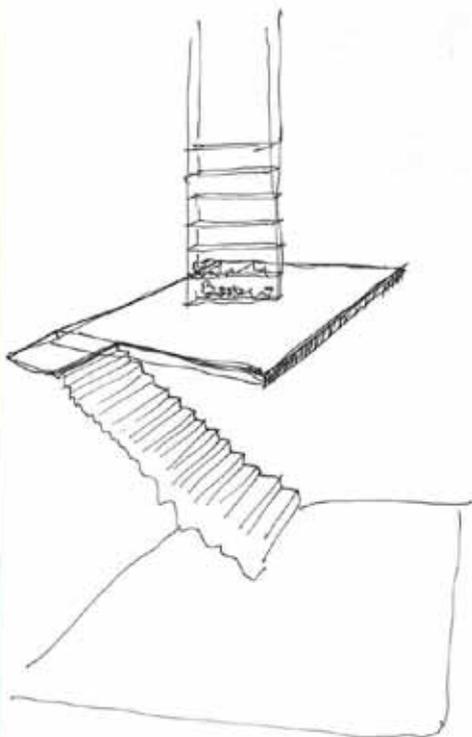
glass house
highrise

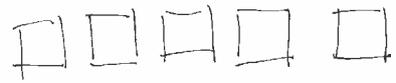
EX SITU, IN SITU

Research center in the
Botanical garden in Oslo.
Conserving plants from all around
the world.

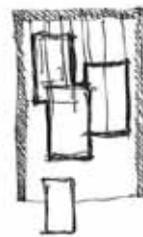
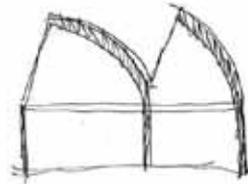


Arctic climate with moss growing on the
walls and samples of nature
scattered in the room.

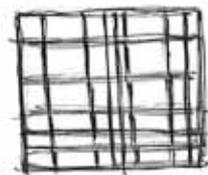
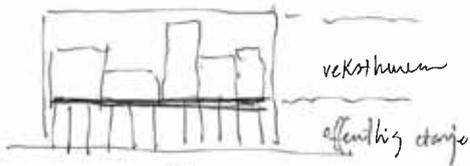
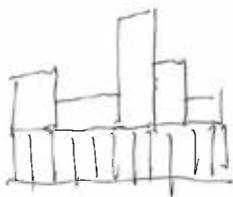




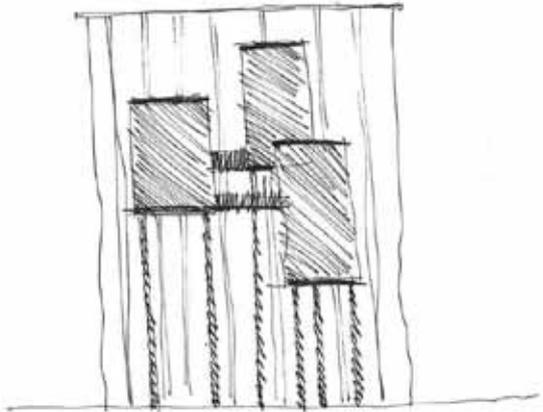
fine klimate som i udgangspunktet
kan se lidt ud hvordan kan de
få sin egen karakter?



Herzog & De Meuron
the Perez art museum



fak karakter som
kom mellem or loft
der er inngang (art)
systemet
tyndt skive
måle rom
glans og god
min i rom



selv bare systemet er søjler
reviderer høyden på rommet og
dimensjonene av rommet. Bør de
det være en av lang kube?

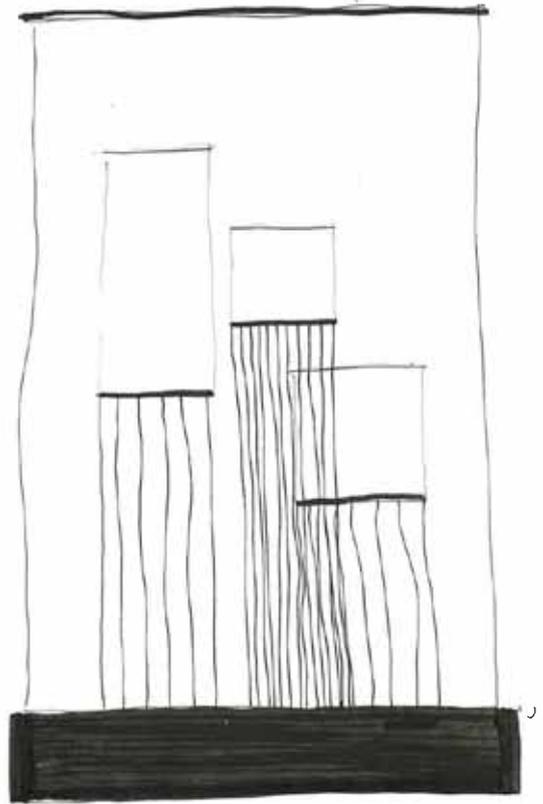
hvert for de fjernede vekstene er planer over bakken, fjernet og separert fullstendig fra sin opprinnelige natur og alt annet natur. Den eneste naturen blomstene har å forholde seg til er den arkitekturen skapt for dem.

Klima inni Klima som konsept.

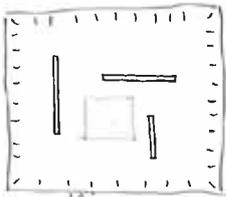
- Hvorfor er dette et bra konsept for oppgaven min?
- Hvorfor er ideen om de "hengende" pottene en bra ide?

Et konservatorium er et bygg som er hundre prosent kunstig, det eneste naturlige elementet i et slikt bygg er plantene som lever inni. Å løfte dine rommer opp fra bakken understreker det kunstige aspektet ved omgivelsene. Alt fra hvordan du beveger deg inni bygget til uttrykket og måten plantene stilles ut på understreker dette faktumet. Plantene er løftet opp fra bakken og plassert på aluminiums bord.

Et konservatorium er et bygg som skal skape de riktige forholdene for å ta vare på noe. I dette tilfellet står planter fra fem ulike verdensklimer i fokus og kunstneren er hvordan å ta vare på disse igjen. Miljøene i bygget er kunstige, men skal skille de kam-prove å etterligne en natur. Måten plantene er plassert på i rommet understreker det fra naturen. Plantene står i pottes på slykbare aluminiums bord, de plantene som er for store står i pottes på gulvet. Plantene er hele tiden løftet opp fra bakken og plassert i en kunstig natur. Denne kunstige naturen er i høyest grad bestemt av arkitekturen.

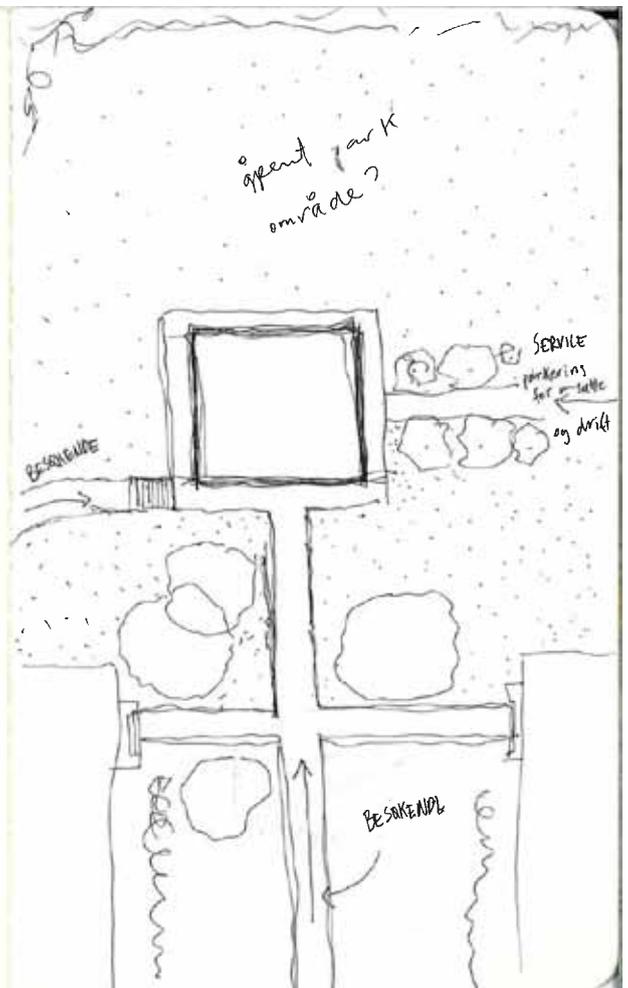


Når du kommer inn skal du se ett av klimaene. Du skal umiddelbart få kontakt med hva dette huset handler om. Rommet er stort, men adskilt med skiver som er med på å bære resten av strukturen.

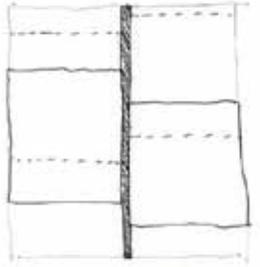


første etasje

- ingangsparti
- foaje
- garderobes
- auditorium
- bibliotek
- trapp og his



problemet med de tidligere ideer er at det kvarten
 var nok plan til selvsagtan. Det foresatte er
 veldig dårlig som arkitektplan, de er ikke sammen
 nok lys inn rommene på grunn av konstruksjonen
 og alle de ulike nivåene som gir dårlig flyt i
 infrastrukturen.



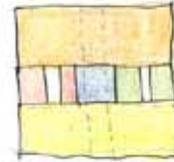
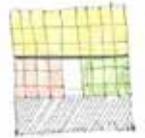
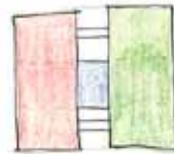
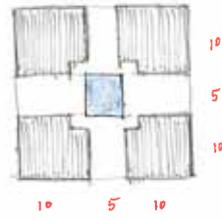
625 m² per. nivå



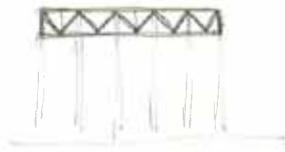
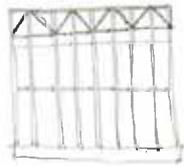
Skisse av hvordan på
 etappen av etasje i
 de etasjer i skissene
 i hver etasje.

en litt base i
 karm med utdanning
 og bibliotek.

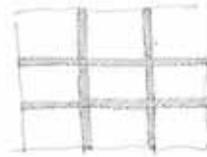
tilbake til tidligere ideer!



BETONG OG HVIT STÅL

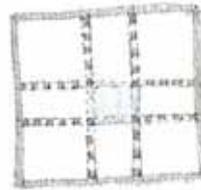


TAK



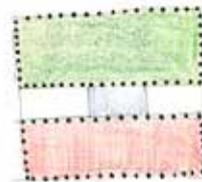
Bjelkesystem i
 betong mellom 1-2 etg.

1



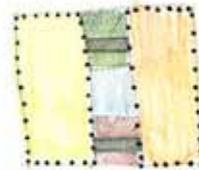
stelt støtter fra
 utsiden, åpner
 på innsiden.

2

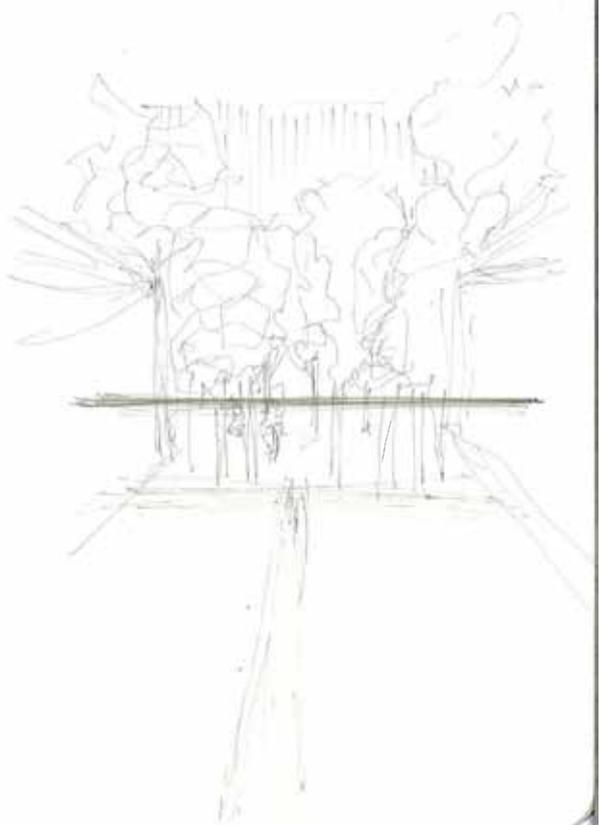
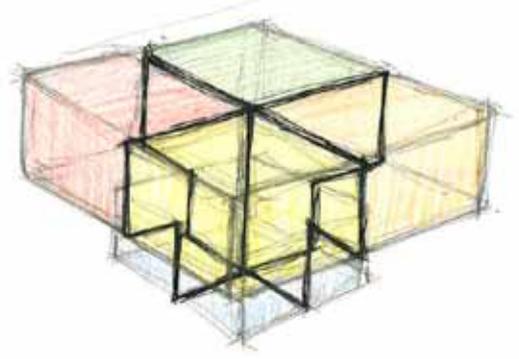
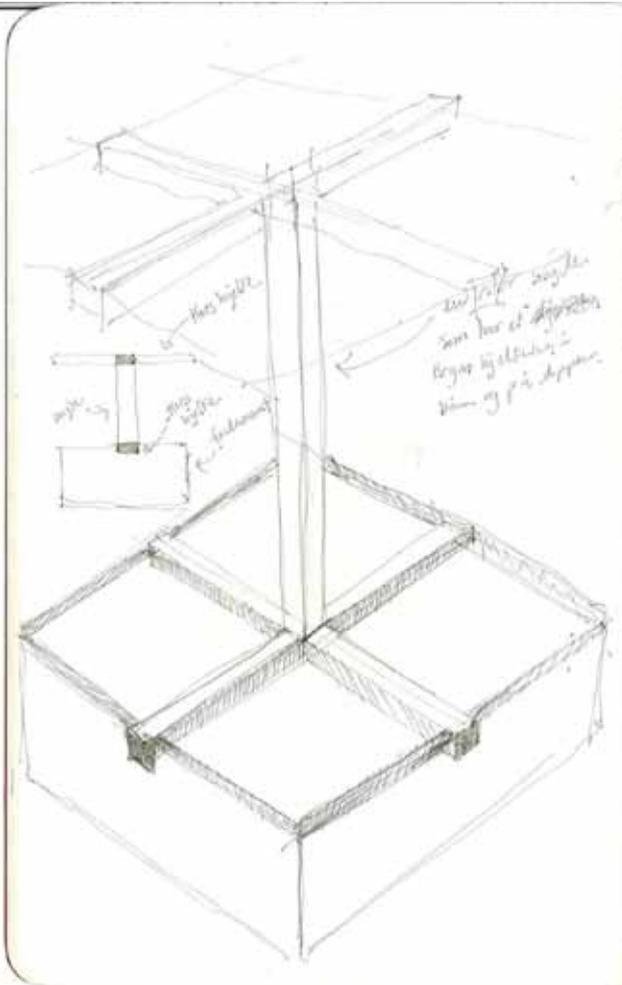


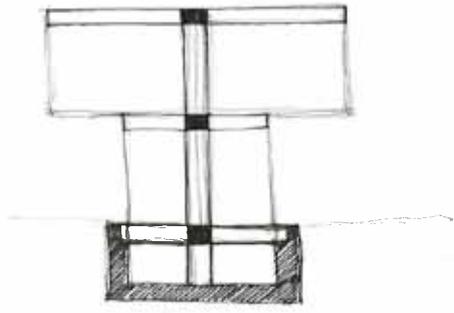
← mellomrommet er en
 del av taket som
 har et dekkelag.
 Her er de feller utvidet.

3

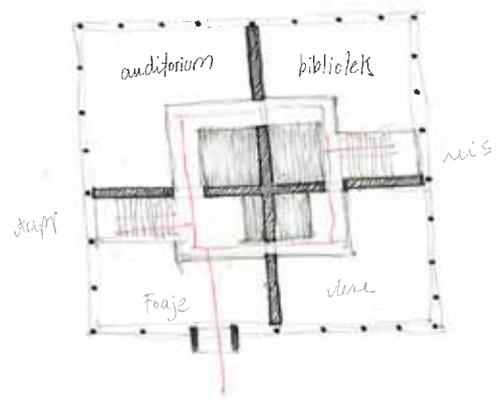


← mellomrommet i osse etg er
 med en br. forbeholdt.
 herfra kan det settes på alle
 fyllingsmasser og se inn i de
 ulike etasjene.

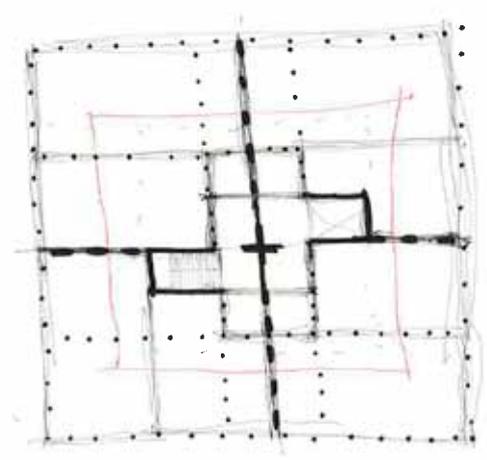
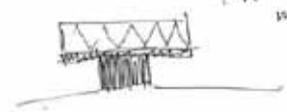


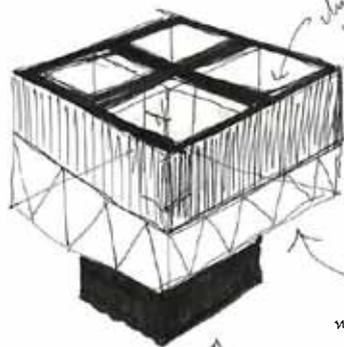
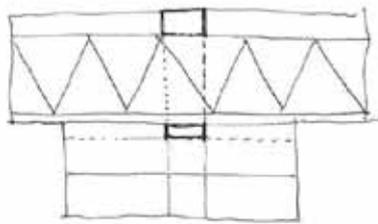
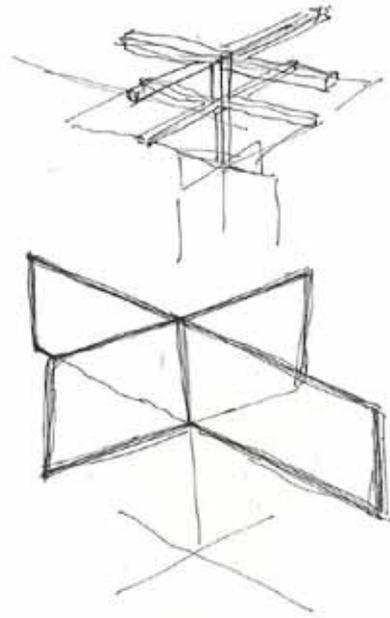
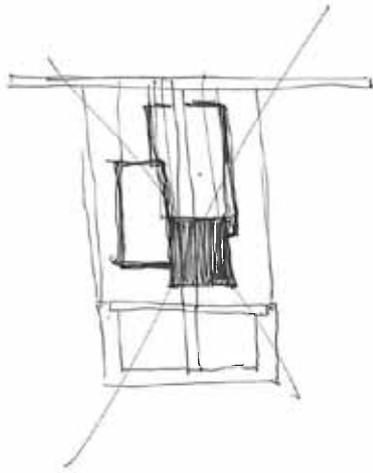


Benne med garderobes og
toiletter.



alle kirkene er på
toppen der det er
mest lys.



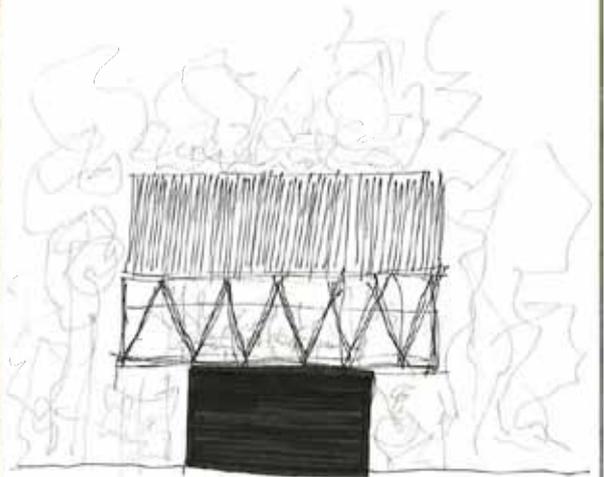


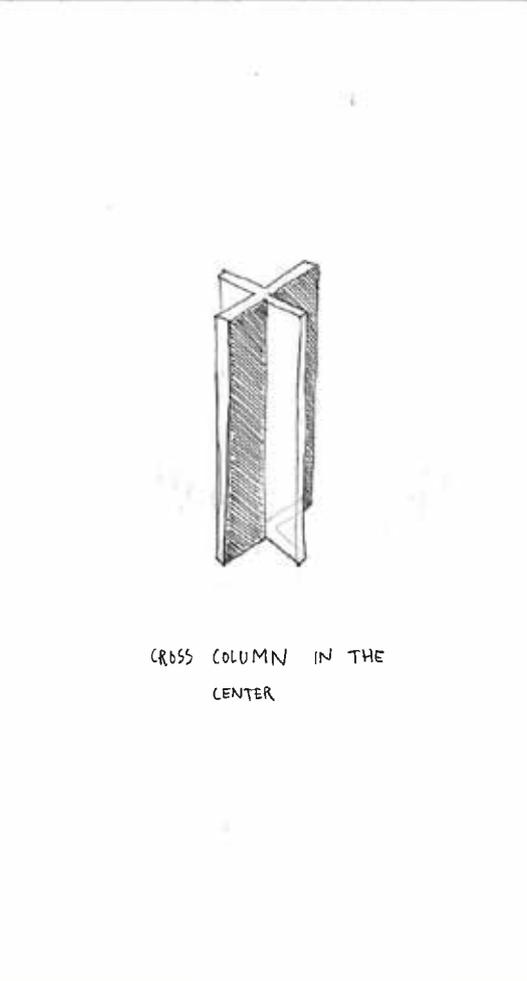
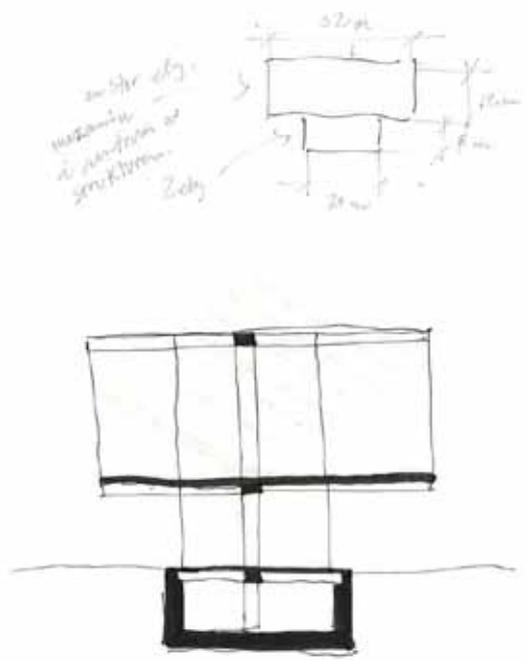
↳ lysarmstøp
fra dækket.

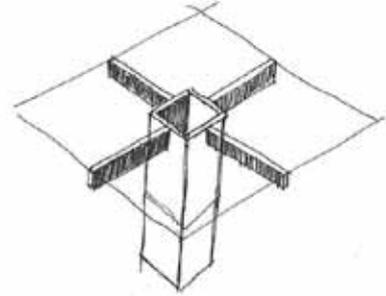
↳ et stykke
dull materiale
som skjermes
dull fra sola

↳ glassfasade
med bærende
stål.

↳ betongjørner



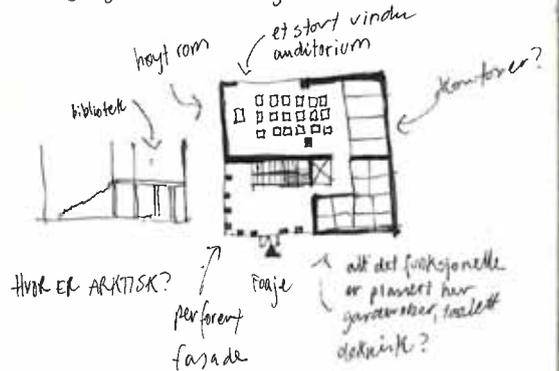


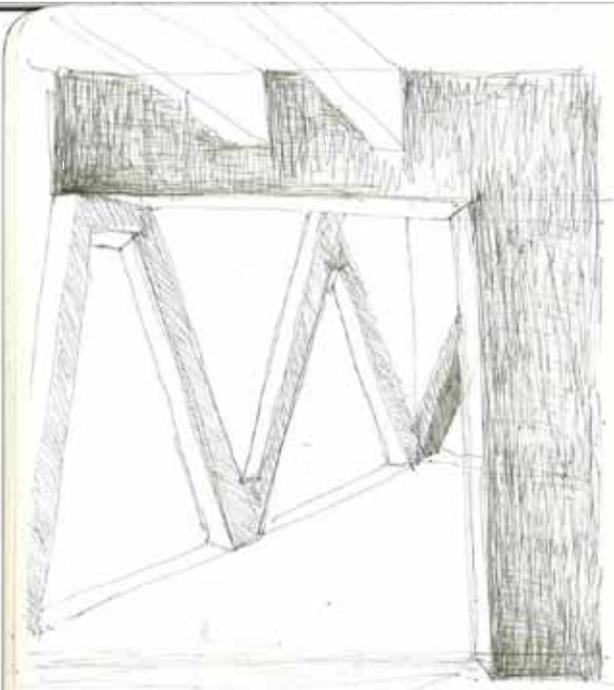


STRUCTURAL HOLLOW COLUMN

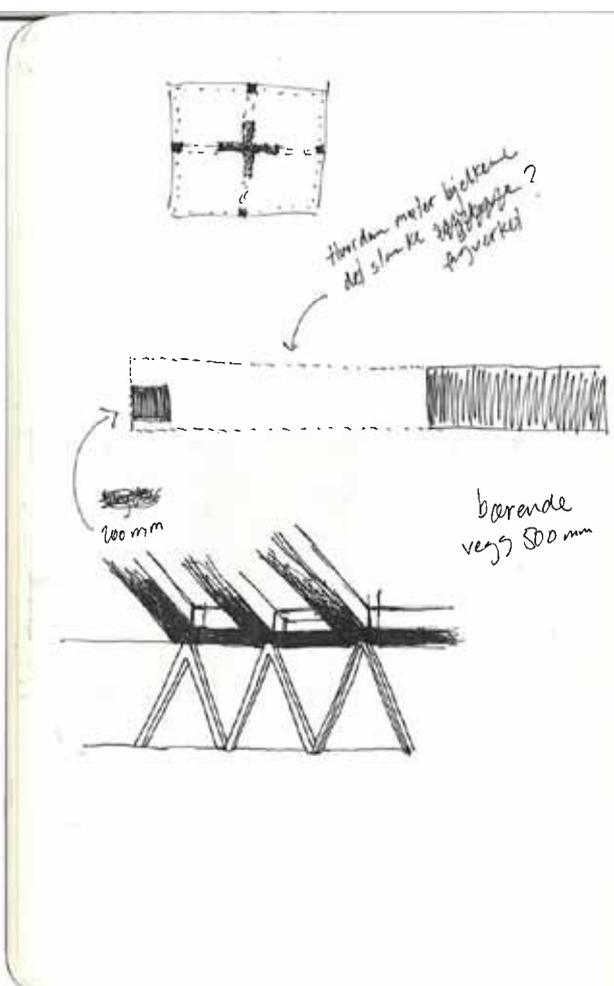
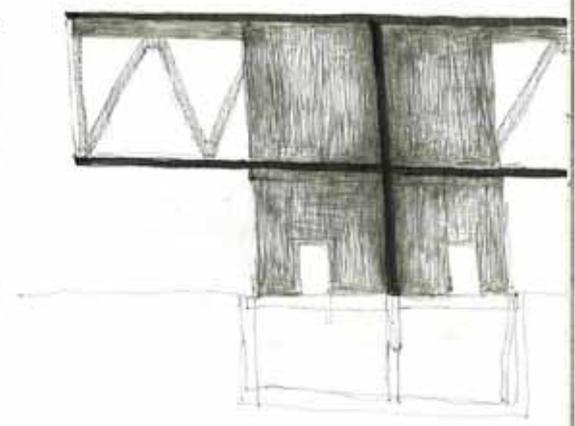
- Utarbeide flere plantegninger med snitt
- gå i detaljene i en av planene. Hvordan kommer man seg opp? Hvordan fungerer bygget som arbeidstasjon?
- Lage en illustrasjon over ett av rommene.
- Skrive mer om programmet/oppgaven i pre-diplomen.
- Ambisjoner/mål for diplomen.
- Lage en aksonometri av strukturen

Kors strukturen blir et veldig viktig element i arkitekturen. Den støtter opp hele bygget, deler opp bygget i klare soner, er med på å bestemme gulvareal/størrelsen på rommene. En ulempe at den veldig strenge strukturen begrenser flytten i bygget og størrelsen på rommene. Her må jeg jobbe med å gi de ulike nivåene riktig størrelser slik at rommene fremstår som komplette. Jeg kan også jobbe med ulike høyder



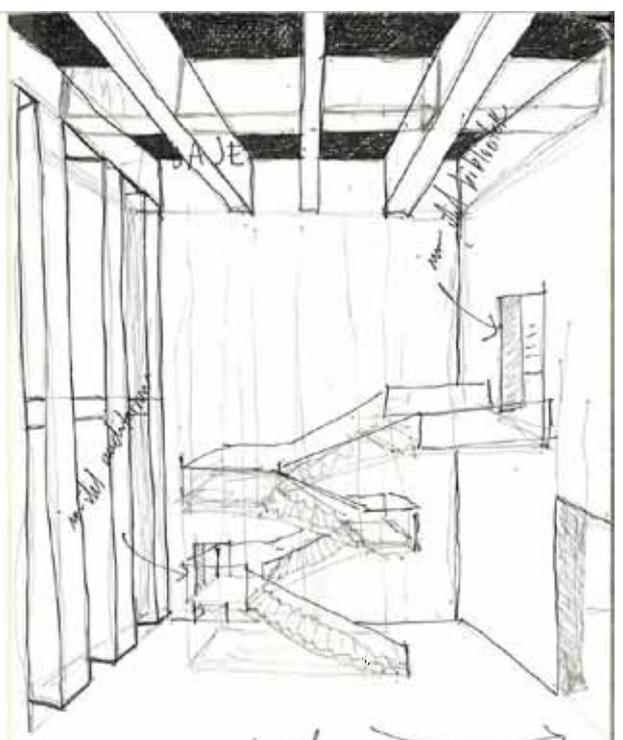


Dimensioner mellem 2 strukturer
 skal, for sammenhængen af
 elementene skabe god rumlighed?
 Dimensioner af betongulv og glas
 skilte gælder som ved andre konstrukter
 i materialerne.

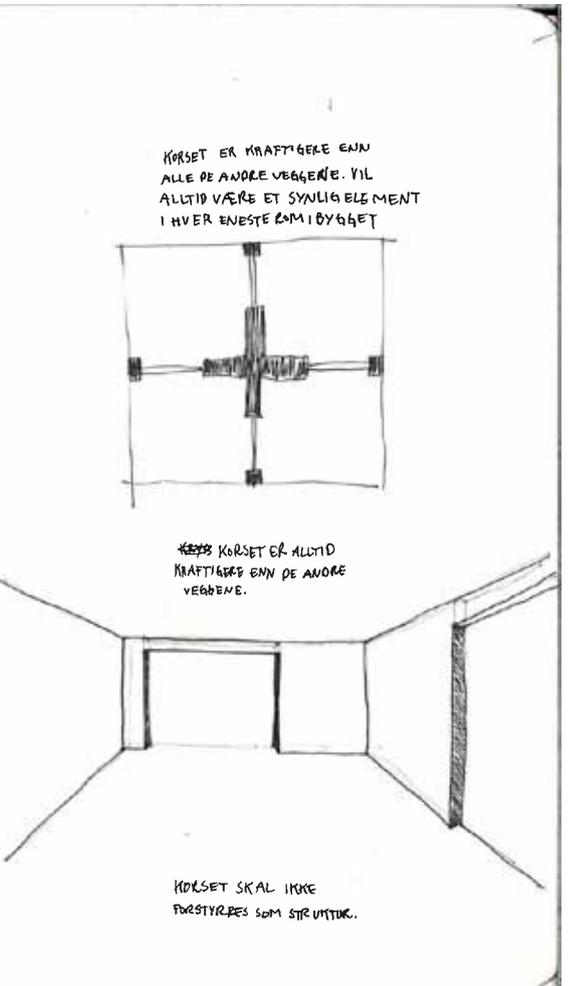
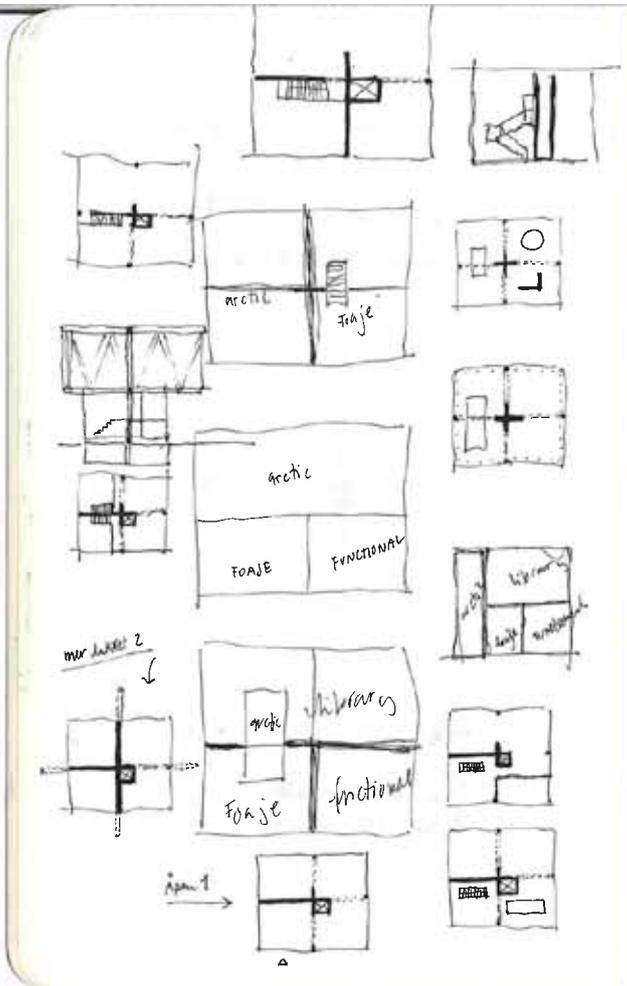
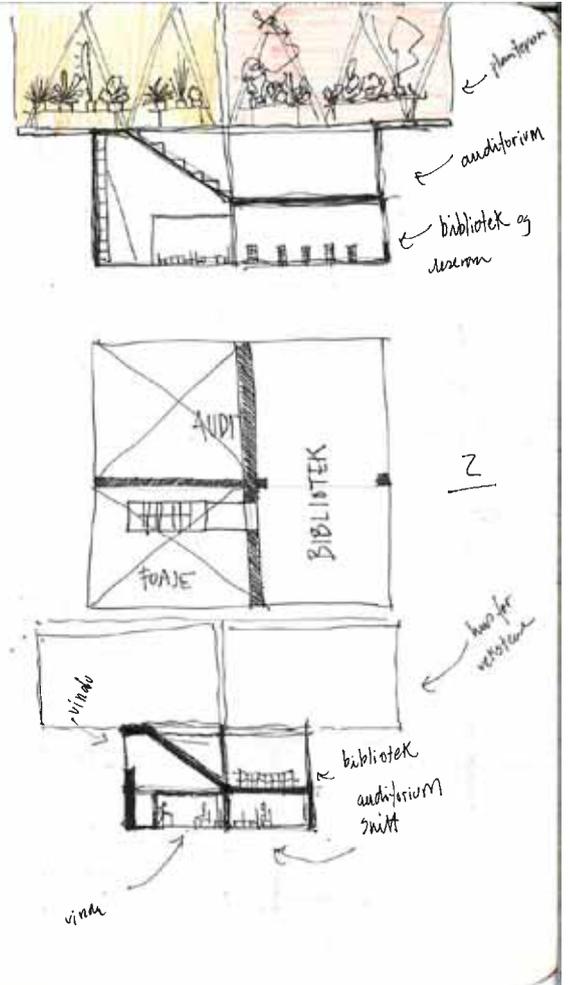
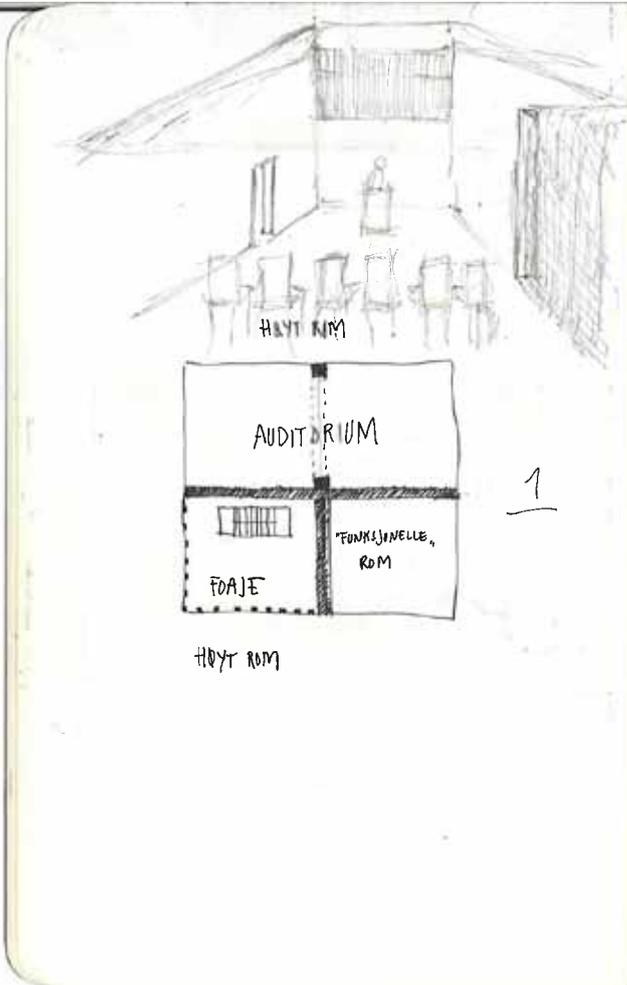


Hvordan møder bjælken
 det slanke søjleparti?
 forvirket?

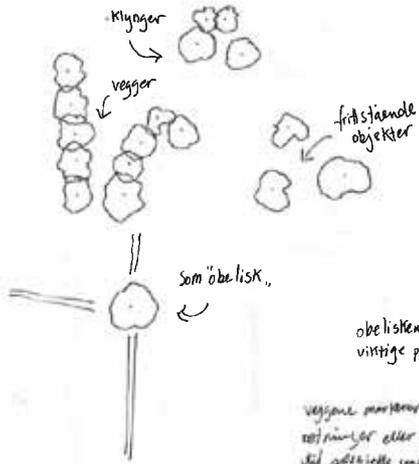
bærende
 væg 500 mm



in til gænderør
 vadelet og auditorium



plantene i hagen er organisert som:

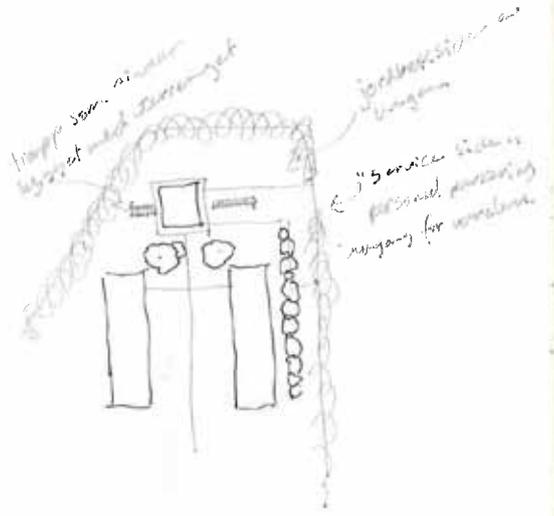


obelisken markerer viktige punkter.

veggene markerer viktige retninger eller fører bevegelse til spesielle soner i hagen.

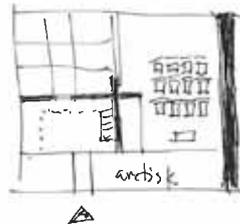
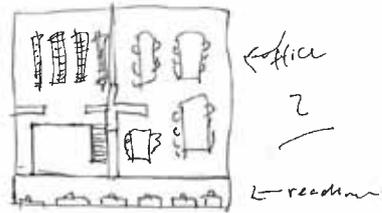
Klyngene er jern, trær som står sammen i familier.

de fristående objektene er mer idylliske, fyller store gressflater med vegetasjon.



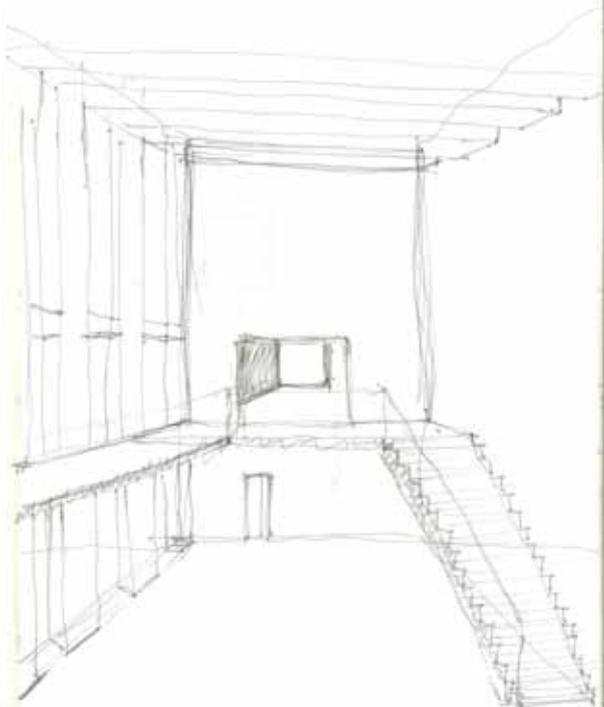
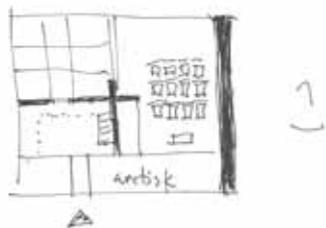
Library

How do we get up?



ahcloud.app.box.com

How do we
get up?



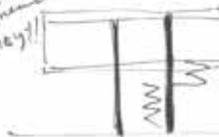
ikke tenke så mye på
konstruksjon nå. Tenk plan.
Hvordan bygget kan fungere
med alle de lille delene?

library &
reception

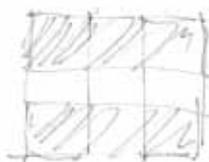
minimalt bibliotek
+ enkelt.



tenk på
proporsjoner
ni være høy?



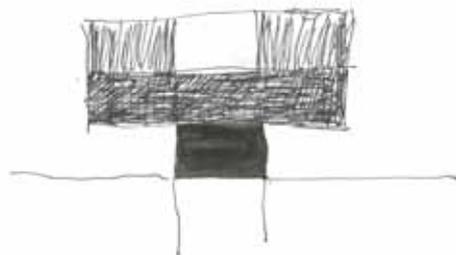
brutt kommunikasjon?
Kan det være
to bærende vegger
som er gjennom-
gående?

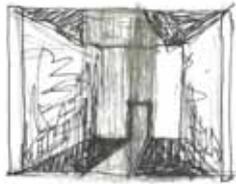


Kan også være
stabile konstruksjoner

- 1
- liten arbeidsdel hvor planter kommer inn.
- arkitektinngang
- resepsjon
- lite bibliotek

Intro → få setninger som kortfattet beskriver
prosjektet, og en statement om hvorfor
vi trenger dette prosjektet i hagen.

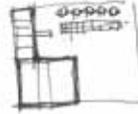




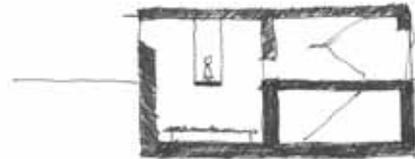
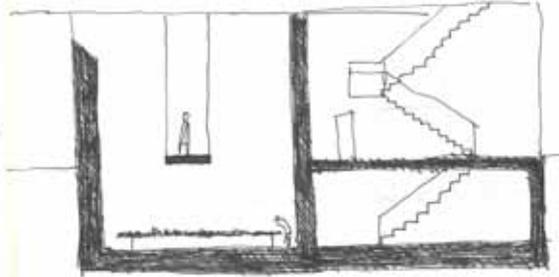
ingang gikanden der
arktiske smee.



foaje -> ingang med in-syn til
den arktiske smee.
in side et hovedrom med resepsjon,
gardenbar, wc og bibliotek.



bibliotek og
resepsjon



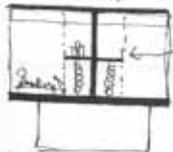
longe main room
reception, library

1
entrance (foaje)
wardrobe
wc
reception
library
work (storage, plant reception)
toilets?

wardrobe
wc

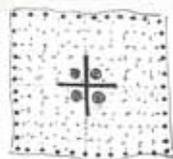
work

mediterranean climate
and desert climate
and not for the
Arktiske smee.

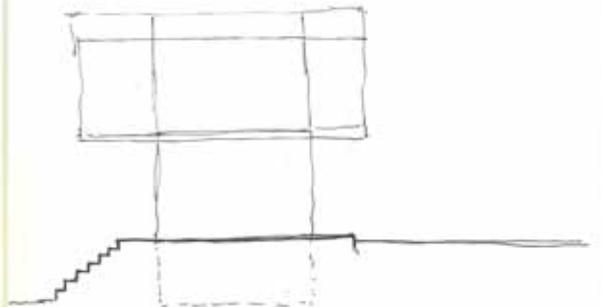


1/1
arctic climate
storage
wardrobe botanists
technical rooms

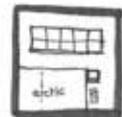
2
auditorium
offices
kitchen
eating area



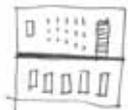
3
common workspace
mediterranean climate
desert climate
cloud forest
rainforest
offices (labs)



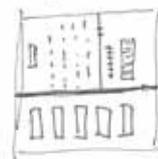
FACILITY FOR BOTANICAL
RESEARCH



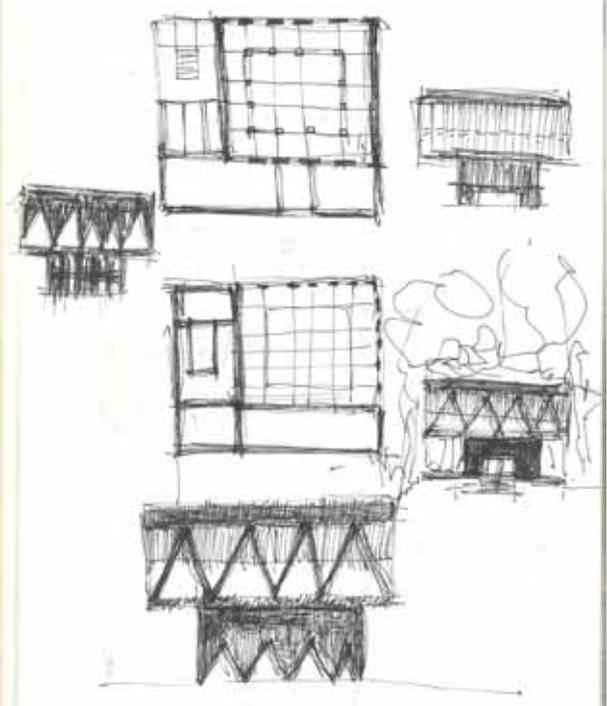
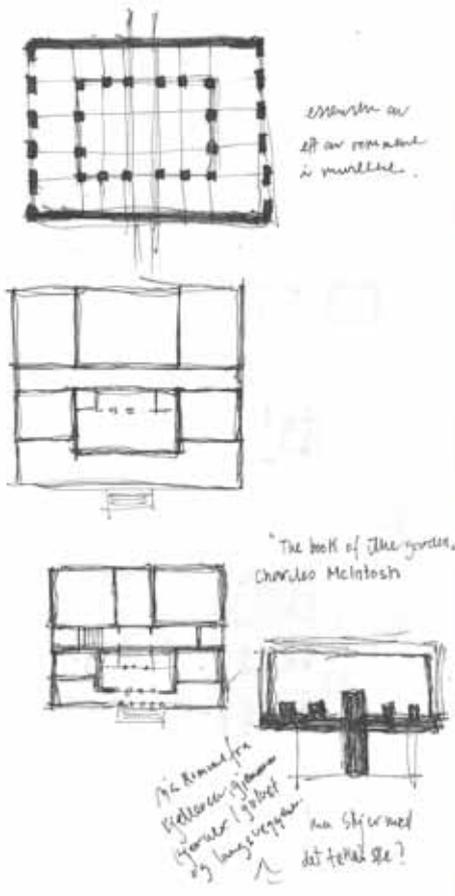
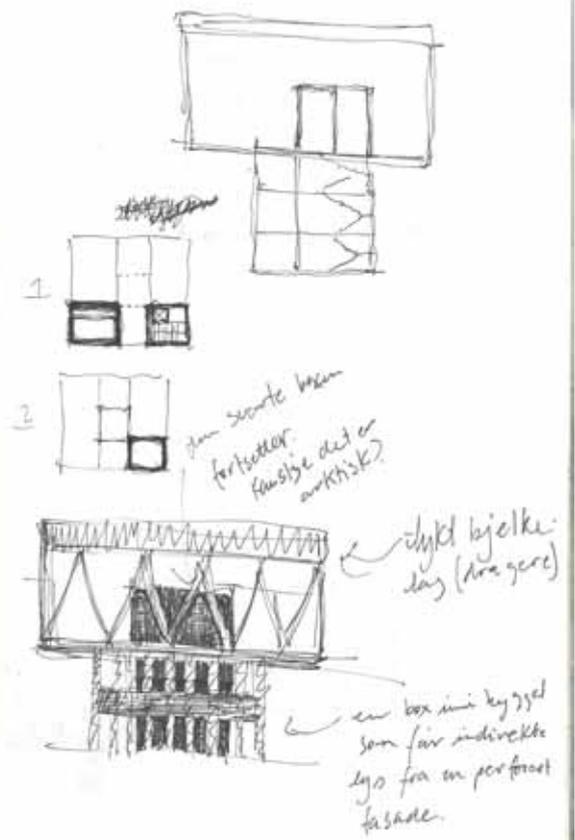
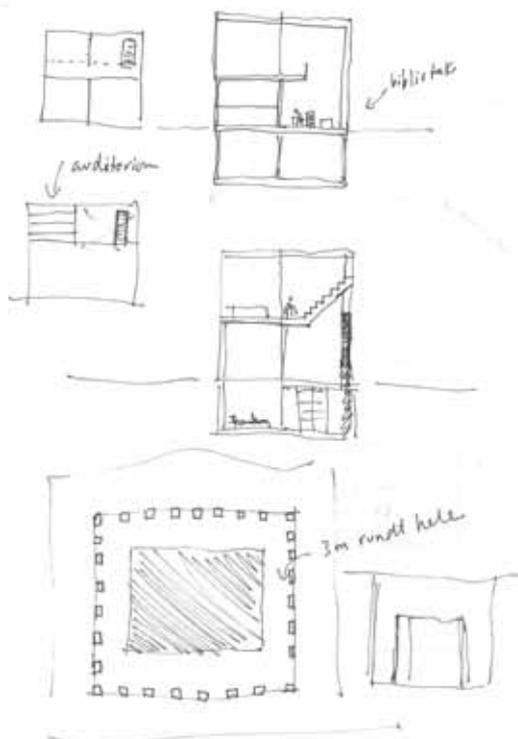
auditorium

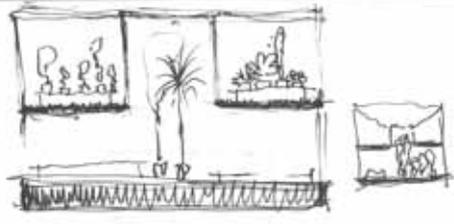


stairs
wardrobe

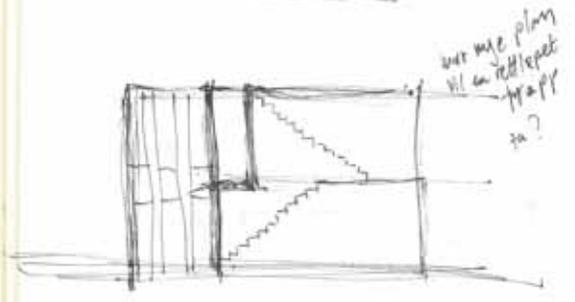
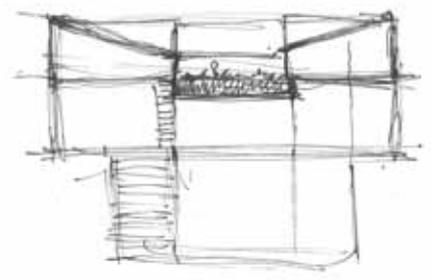
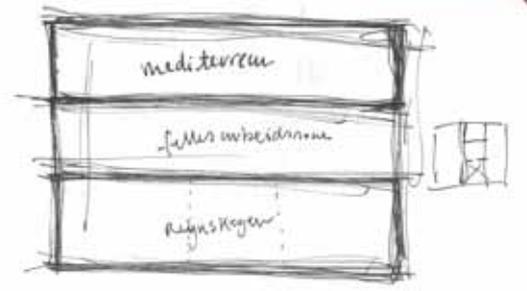
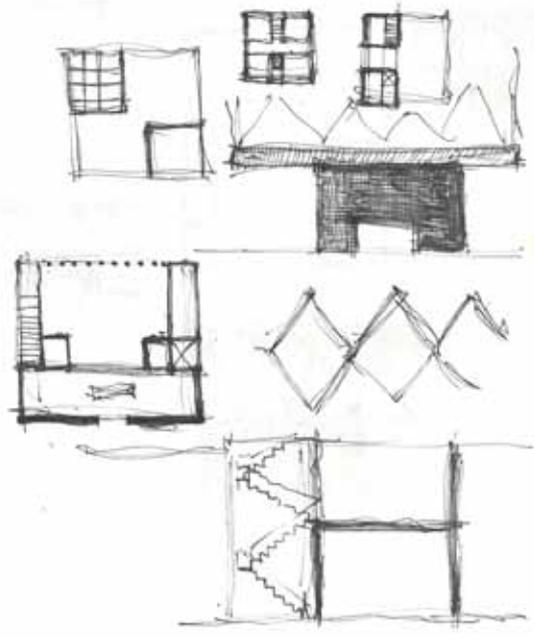


offices



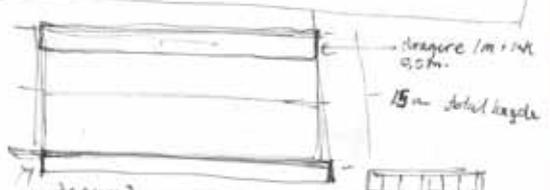


Research facility in the Botanical garden in Oslo

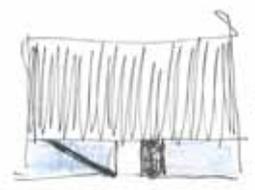
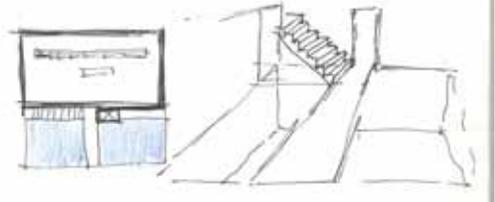
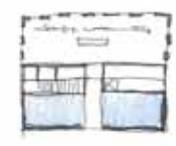


kan skjere med denne?

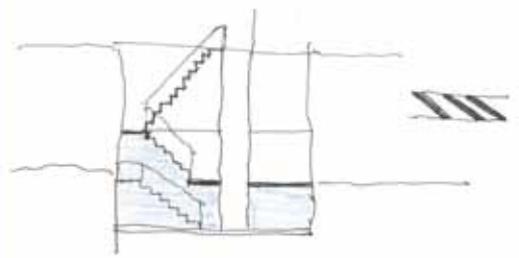
regnskog → store rom, høyt under taket. Trenger ikke brd.
 tilskog → store rom, kan være høyt under taket. trenger noe bord og noe gulvpluss.
 mediterranean → kan ha normal høyde (5-7m). Trenger bare bord orientert. Kan ha noe gulvpluss.
 etken → kan være et lavt rom. Trenger bare bord.



stenger formin?
 + golv. gulvet må ha plass til vannbærende varme.



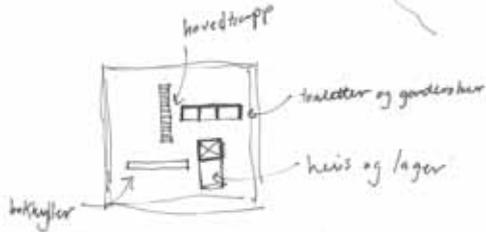
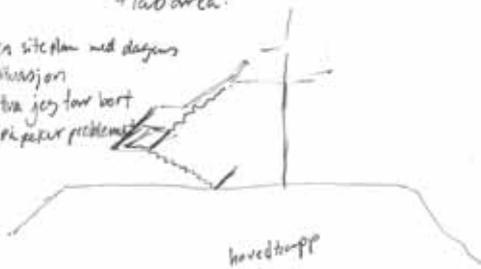
tykke dører
 i en glassfasade



office space for 12 people

ca. 800 m² offices and
ca. 1800 greenhouses learning center
+ lab area.

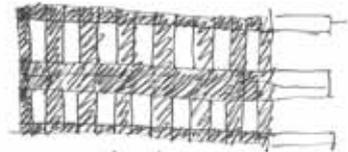
en site plan med dagens
situation
→ fra jeg tror bort
at der er problemer



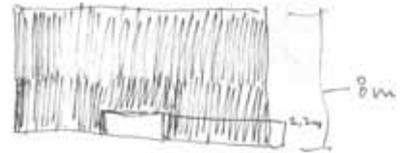
åben plan med
fire hjørner som
går igjennem i hver
etage i hele huset.



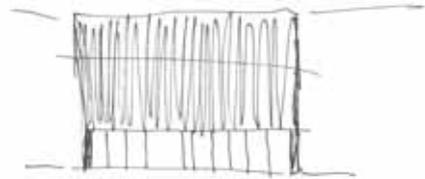
forholdet mellem
4 klimazoner



mer åbent de andre sider.



tæt facade i front.

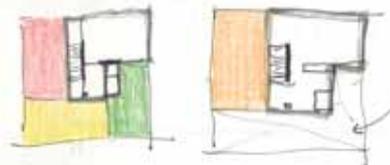


229 100
176 186

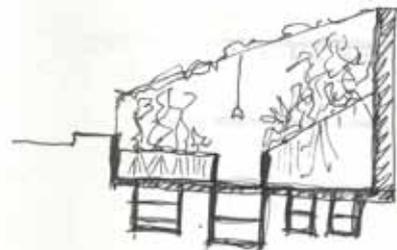


when you walk in the axis of
the museum buildings you see the
research buildings in the end.

The enclosed character of the base gives
focus to the upper floors where the greenhouses
are. It gives a signal of something unaccessible
yet something that regards the garden work.



double
height old
trapist

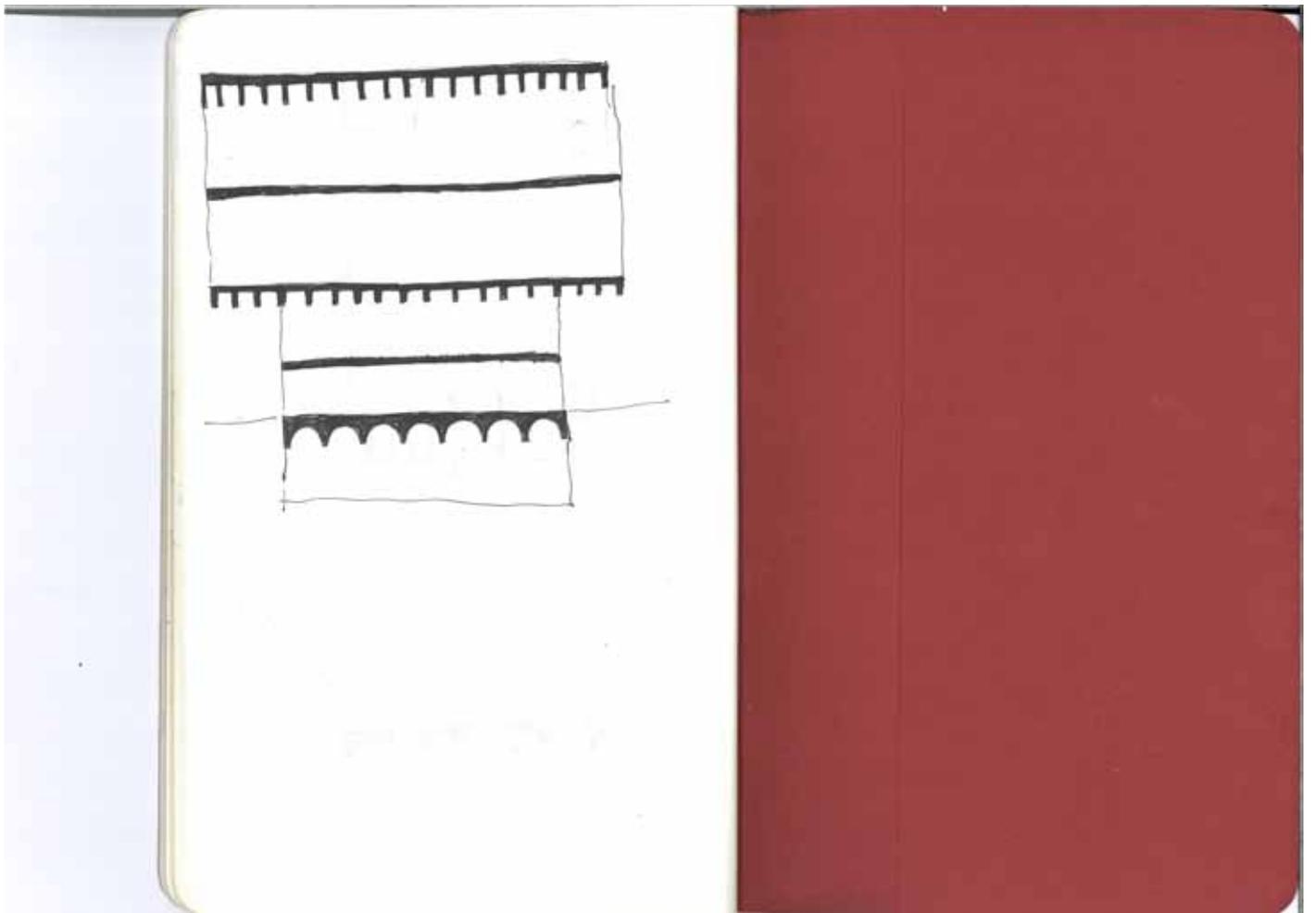


What about
artistic?

Belgian greenhouses
with soil beds.



system or by the
the tower with the
soil level some
yellow motor.

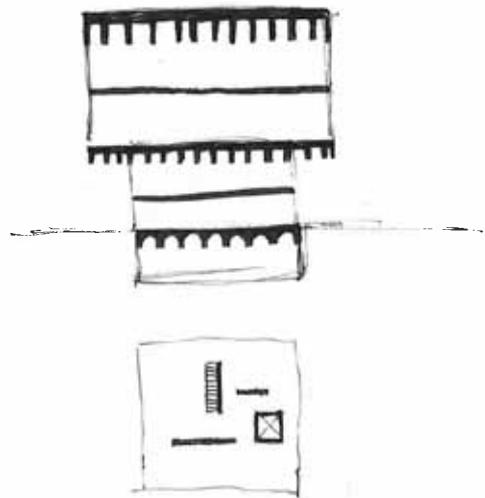


SKETCH BOOK 4

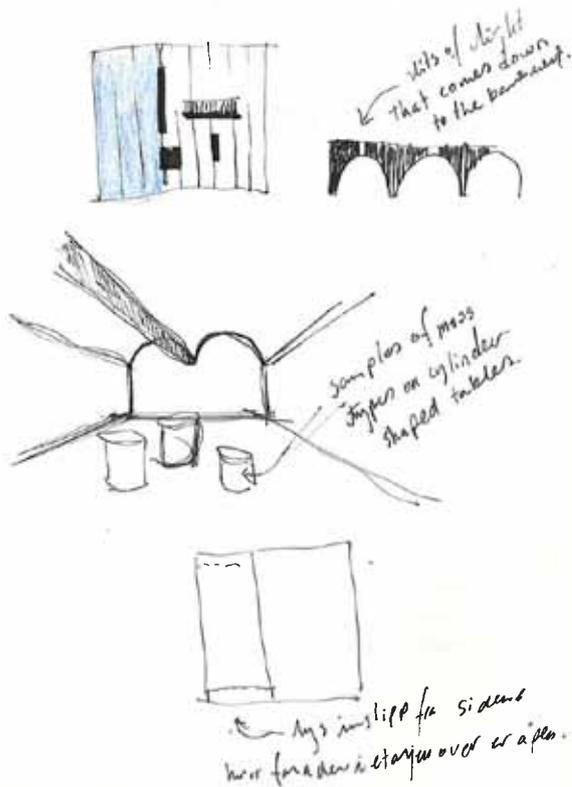


DIPLOMA

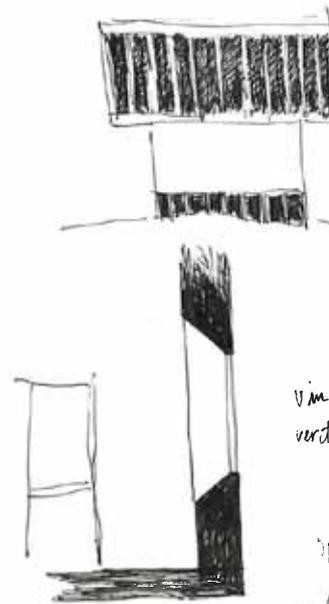
2017



the concept plan works very good for the different programs of the building. but the greenhouse spaces are a completely different world, it lacks character (maybe it needs a strong concept/spacial relation between the five of them).



- 1 Et kart over f. Hissområdet
2. Helt likt, men bare bremet
3. Kart over hagens soner
4. området rundt for
↳ etter med by plan.
5. Utomhus plan 1:500
så langt jeg har
kommet.



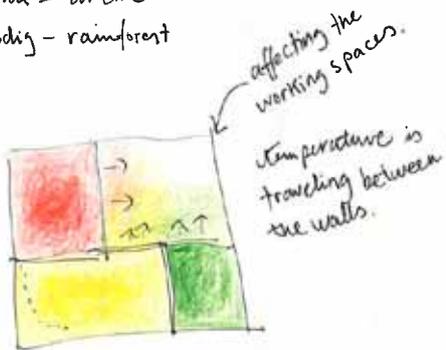
6. planer av bygging
7. snitt i situasjon
8. detaljerte snitt.

Vindens drift
vertical snitt?

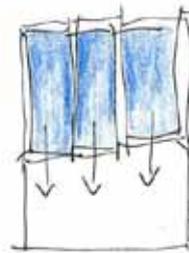
Oppriss av bygget
sett fra aksan!

FAKE Industries architectural agonism

- Klart - desert
- Duft - mediterranean
- rike - cloud forest
- Kulde - arctic
- frodig - rainforest



Soneliagrammer
med temperaturer
hvor varmen flykter.



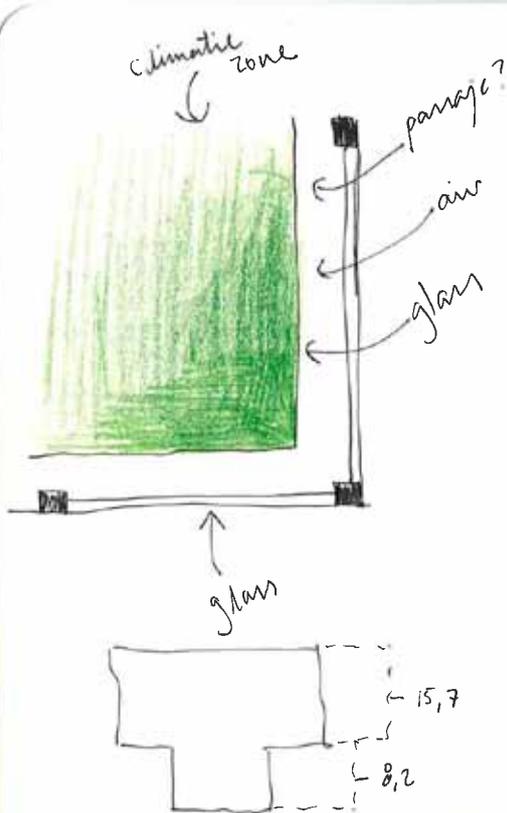
Can the arctic
area be separated
chambers with different
temperatures? Kind of
like large storage spaces
for the tundra.

You take out the plants
and study them in a
common workspace.

make the industrial area stronger and
more industrial fitted. "dirty zone, where
the soil and the plants are coming in
and out from the garden.



this part can be
on a higher level.
to separate



construction!

articulate the rooms of the climates

column space → climates

one space in principle

column structure?

How can I come
place in?

clear structural attitude should it
be the same or separate? dett eller åpent?

hagen ser ikke som en avslutning, men
som noe annet.

mycket rätt tangent
ikke å framsett hagen rundt borde
ikke å ser jeg ← være friere.



many soner
i planen som
er bortkastet...
waste space

uteplanen borde
ser litt nærmere på.
Problemet med planen
i dag er at det er for mange elementer

? eller vi dem?
mitt forslag borde ha
Rimelig sterke elementer!

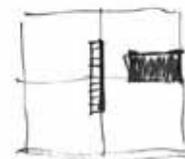
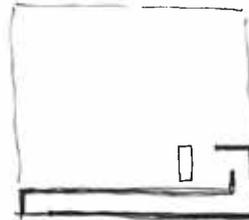
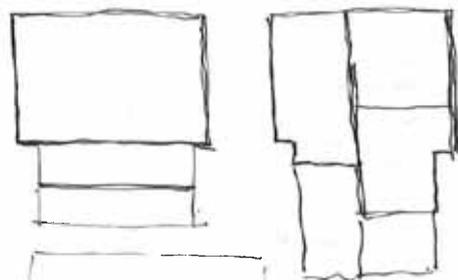
TRE VIKTIGE BILDER

1. SET FRA UTSIDEN
2. FRA ET OPPENTLIG ROM
3. FRA ET VÆKSTROM

LAGE EN DUMMIE AV
UTSTILLINGEN. HVILKEN
TEGNINGER TRENGER JEG?
HVILKEN FORMATTERENGER
DE ULIKE TEGNINGENE?
SKALA? KOMPOSISJON.

- tegne de fasader
då det forslaget jes
har nå.
- lage modell.

• tegne egne trær.



trapp
veis
vann



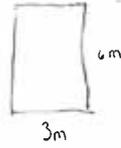
Søjlestruktur i hele bygget.



brutt kommunikasjoner
eller klimaene starter

Konstant der lærings
og kontor er.

PROFILIT GLASSYSTEM



max
dimensions of
glass.

VENTILATION
ELECTRICITY
WATER

the structural system
vertical communication

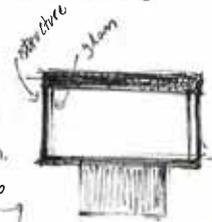


continues system around
the whole facade

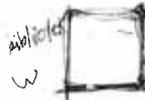
massive system irregular
cuts are only made
where it is necessary.



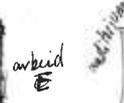
each side of
the building
can respond to
a heat condition.



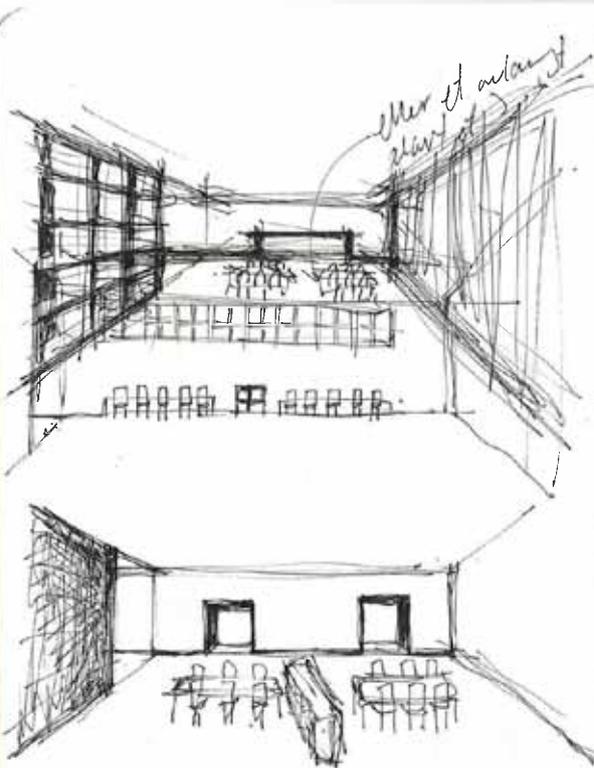
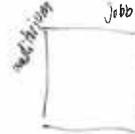
N spise



ingang
S



mezzanin

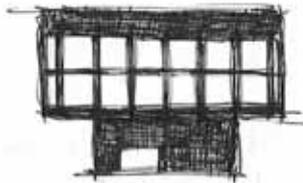


Mer et arbeid
større et arbeid

bibliotek med
lave vinduer?



FOAJE med et
høyt vindu som
ser opp mot Jacobspass.



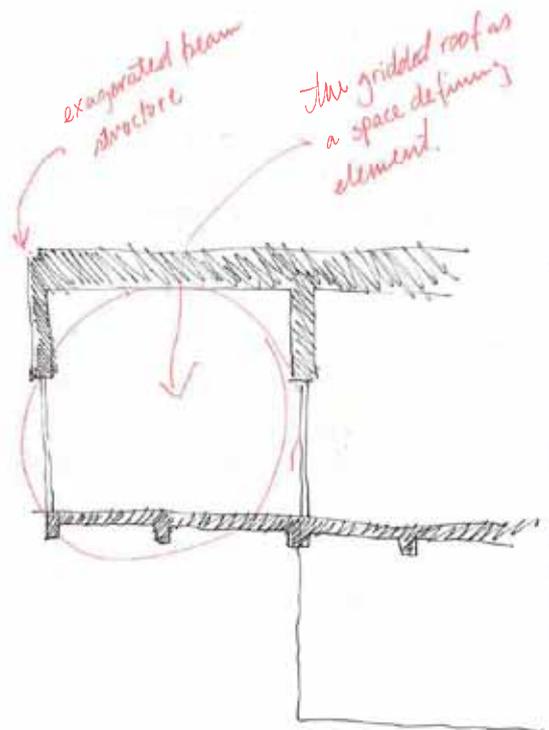
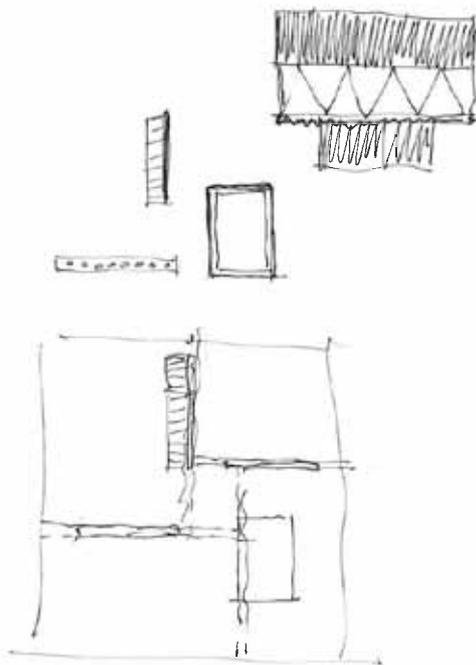
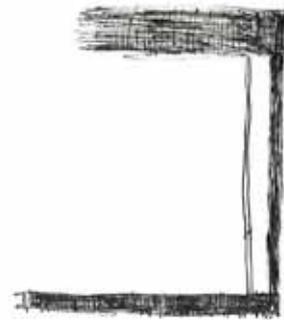
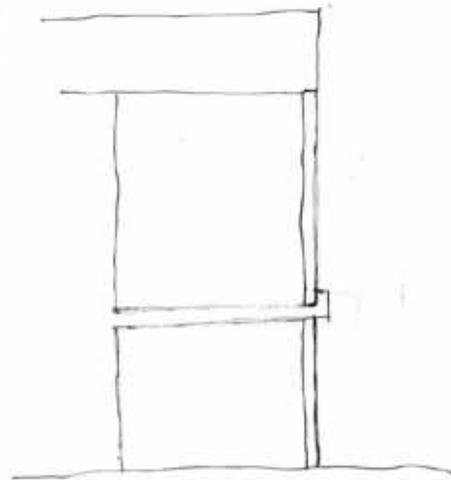
$$\frac{L}{b} = 18$$

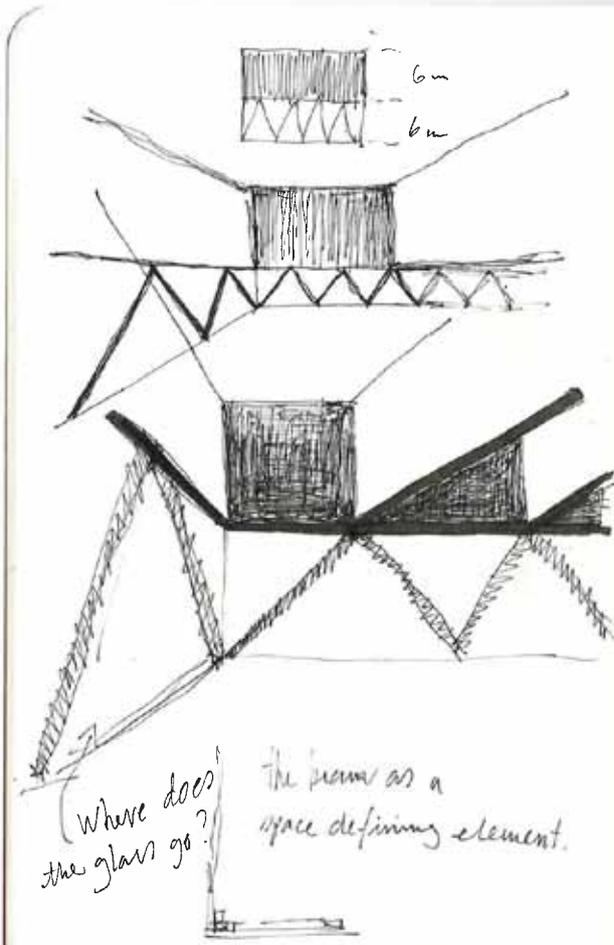
højde-bredde forhold
 on søjler hvor slank
 en søjle kan være i
 forhold til højden uden
 i knække.

$$\frac{12}{0.65} = 18.4$$

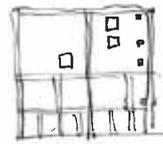
$$\frac{10}{0.55} = 18.1$$

hvis højde på 12m
 må søjlene være
 0.65m tykke.





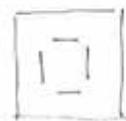
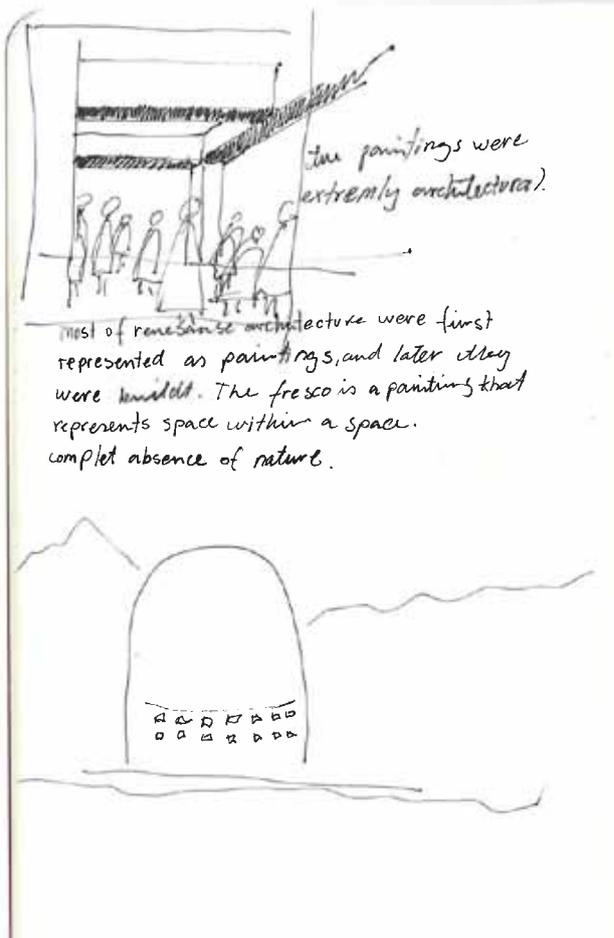
BAUKUHT - three projects. 22. november



The house of memory.

How is it possible to make a modern monument?

- simple
- brick
- images pressed on the box,
- pictures as representations.



the relation between four climates. Four sides of the building.

ett plan er et stort rom
hvordan deler vi dette rommet
inn i egne soner?

Biblioteket - mange små vinduer



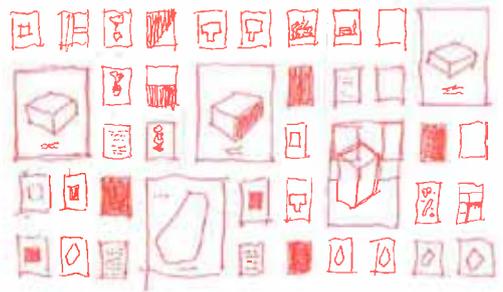
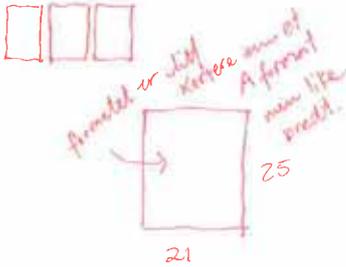
Auditorium - Kan være i kjeller uten
lys. Eller få et stort
vindu



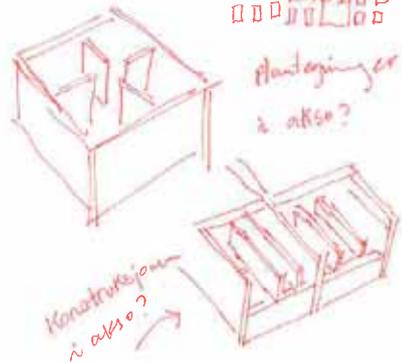
A1: 594 : 841
 A2: 420 : 594
 A3: 297 : 420

til udstillingen

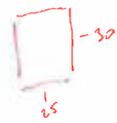
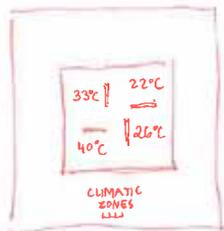
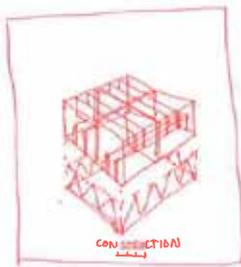
- A1 * 1:1000 situationskort over hele hagen (takplan).
- A3 * 1:500 situationsplan over forskningsområdet (1. etg planer)
- A5 * 1:500 model kortsnit over hagen med bygget.
- A3 * 1:500 ~~lang~~ langsniit over hagen med ~~målestok~~ 1:500
- A2 * Kort med navn på træerne
- * Kort med akse
- * Kort med højden på træerne
- * Kort med byggezone som jeg fjerner
- * 1:50 detaljesnit med materialer
- * bilder av hagen slik den er idag.
- Analysen av hagen



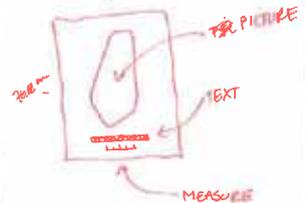
20 sm
 4 store

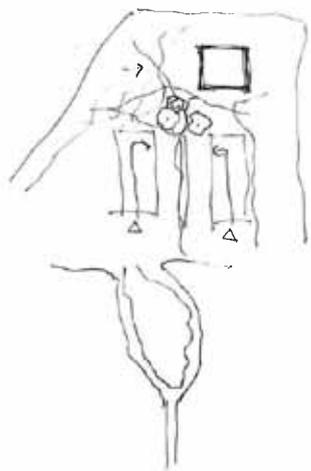
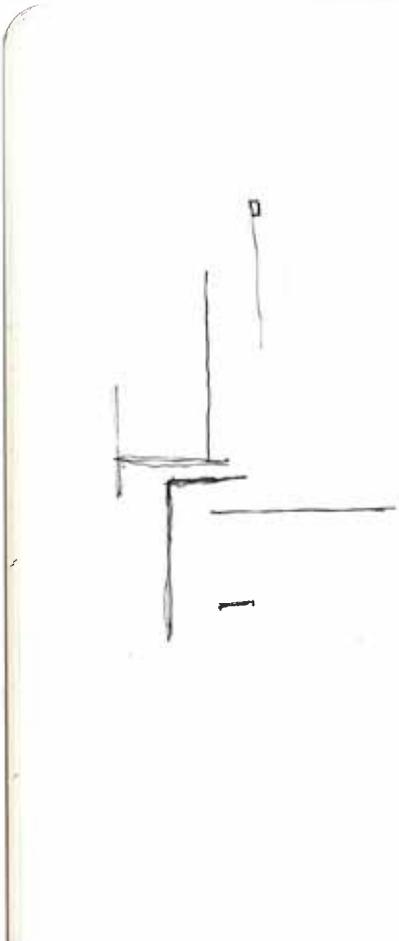


226300



59.4 m





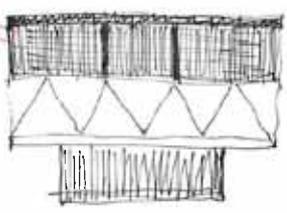
E2A -



henger
konstruksjon
eller stål
den?
gulbet blir tyngre
hvis den henger
12. 10



hvit stikkmetall
expanded metal



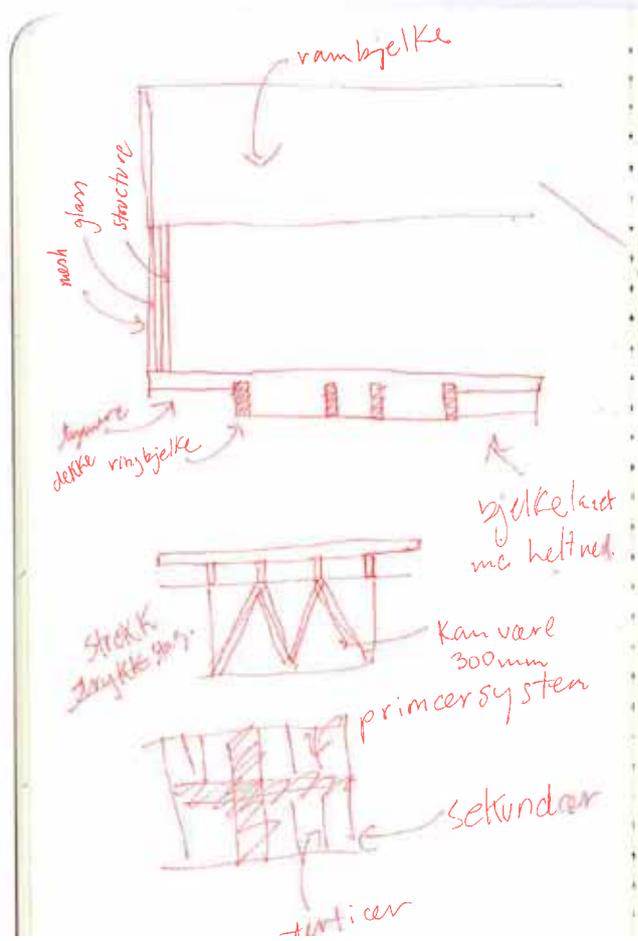
mesh like material
that filters the
light
stål konstruksjon

gjør at dekket som er synlig
i fasaden kan være dynt.

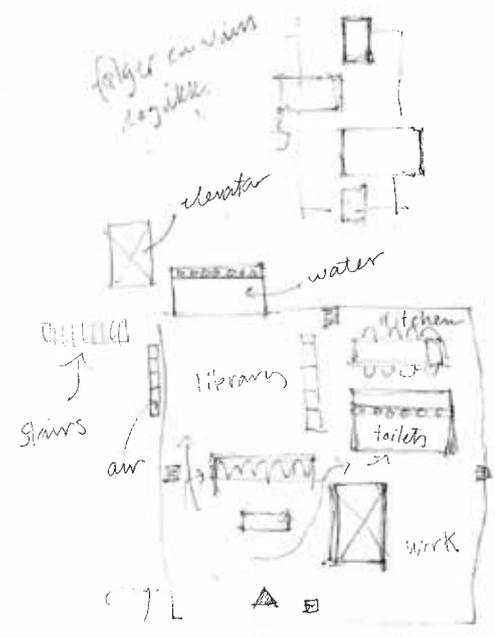
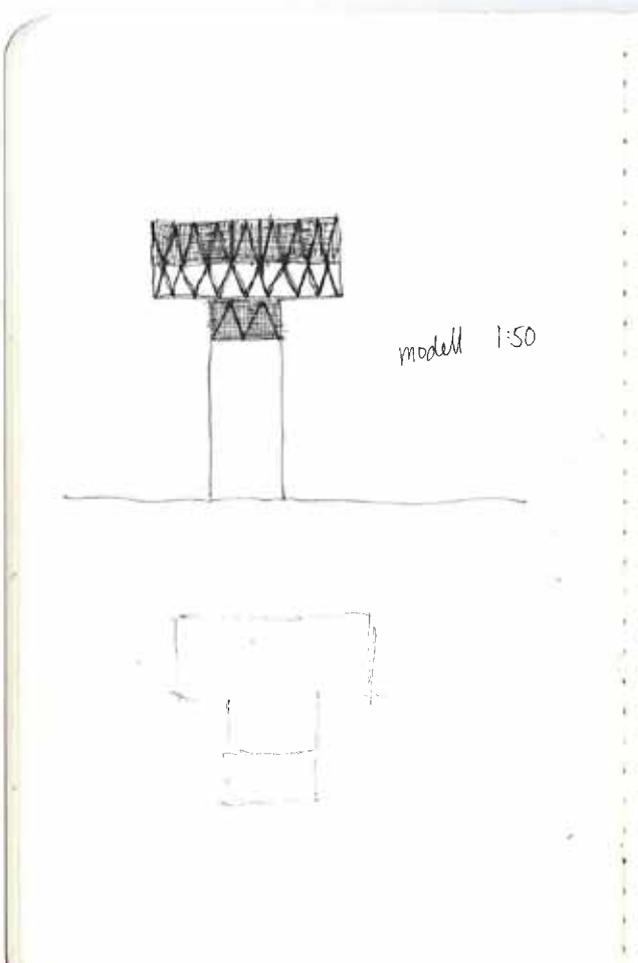
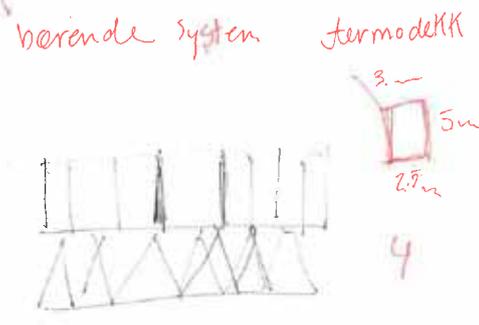


stål på utsiden av
fasaden som tar
strykk.

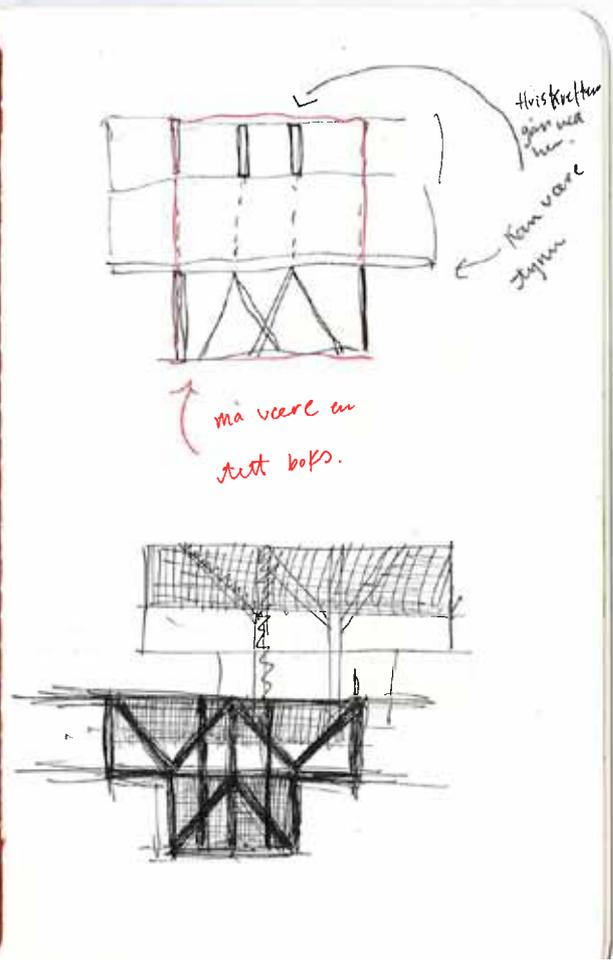
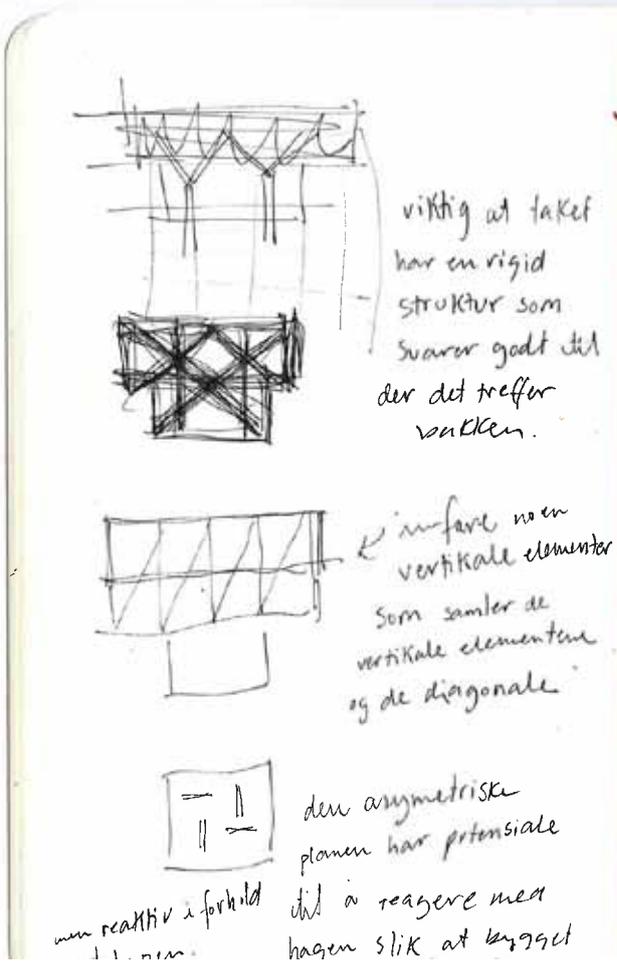
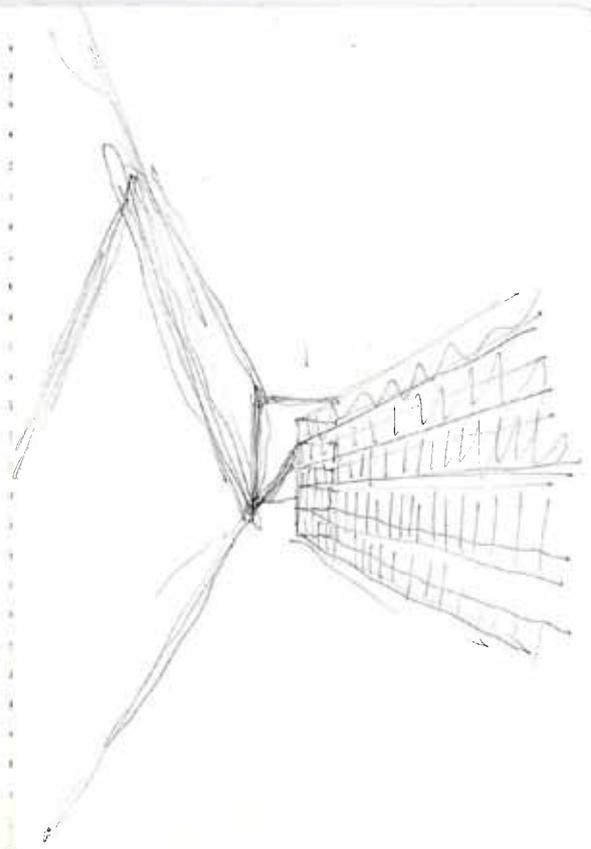
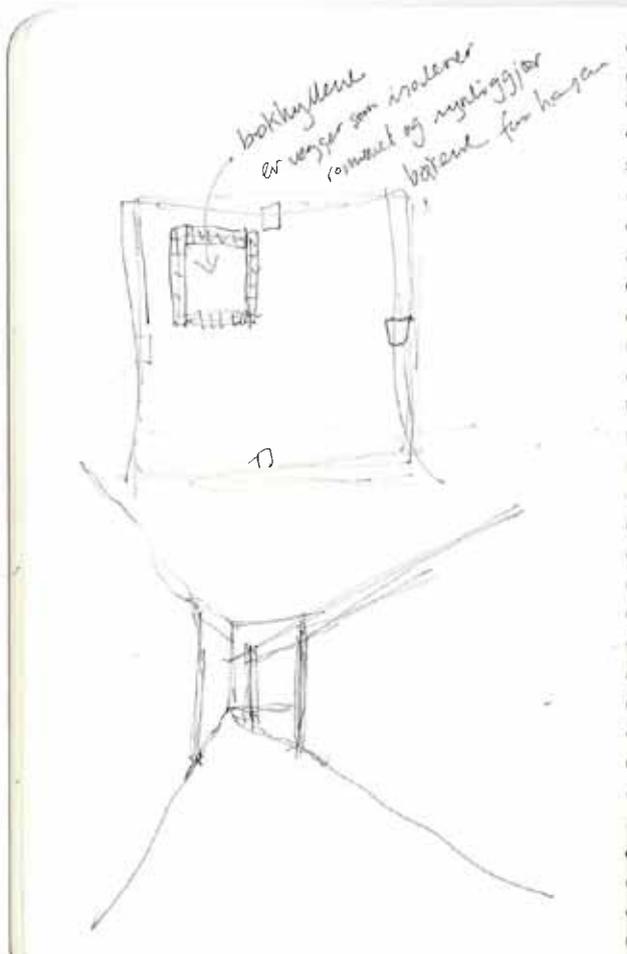
bærende betong på
insiden som tar
trykk.

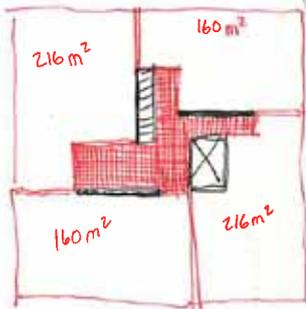
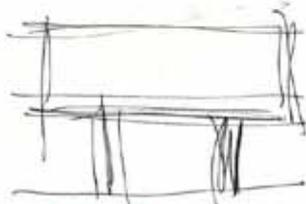
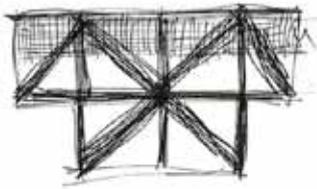


bjelkerist med strekkmetall
25 cm iso

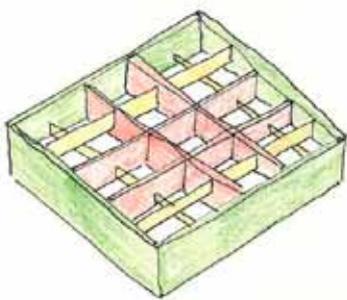
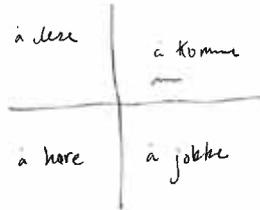
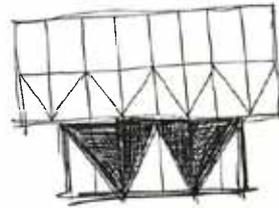


for at planen skal fungere må man være i alle rom og være i alle størrelser for å sikre god tilgjengelighet og sikkerhet i alle romstørrelser.

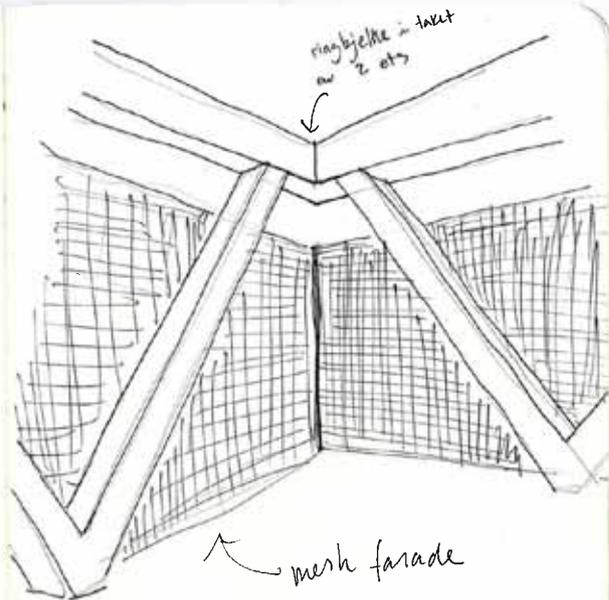


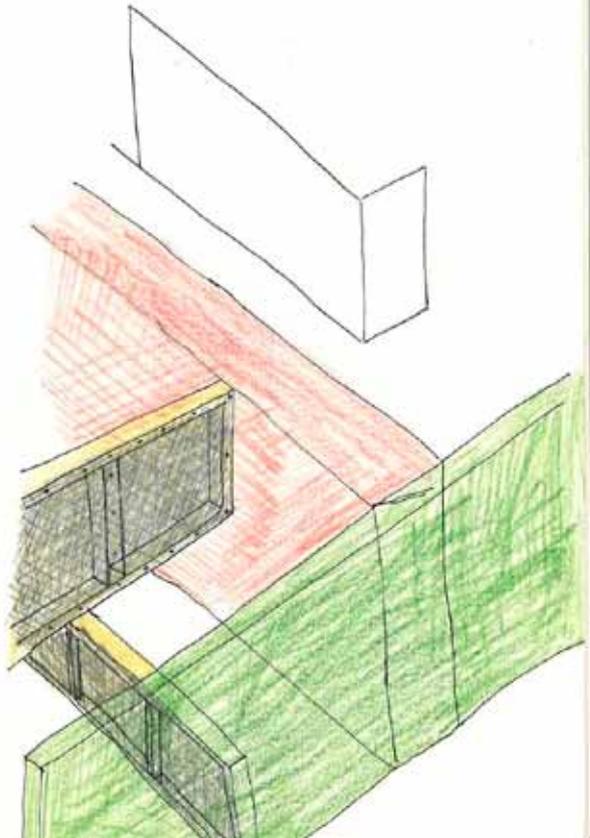


Kjønn sonens
avgrensning bestemmes
av hovedkonstruksjonen

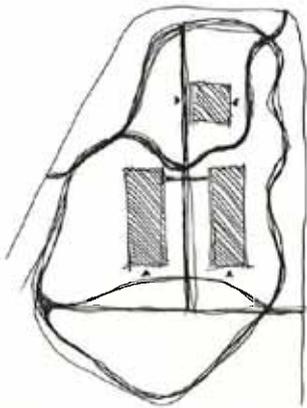


- primærbeiringen som fortsetter ned til skivesystemet i sentrum av konstruksjonen. BETONG
- sekundærbeiringen fungerer som en ringbjelke rundt hele konstruksjonen. Er direkte bundet til fagverket i fasaden og er med på å henge konstruksjonen. STÅL
- tertiærbeiringen er med på å stabilisere hele taket og gjør hele konstruksjonen mer rigid. PERFORERT STÅL

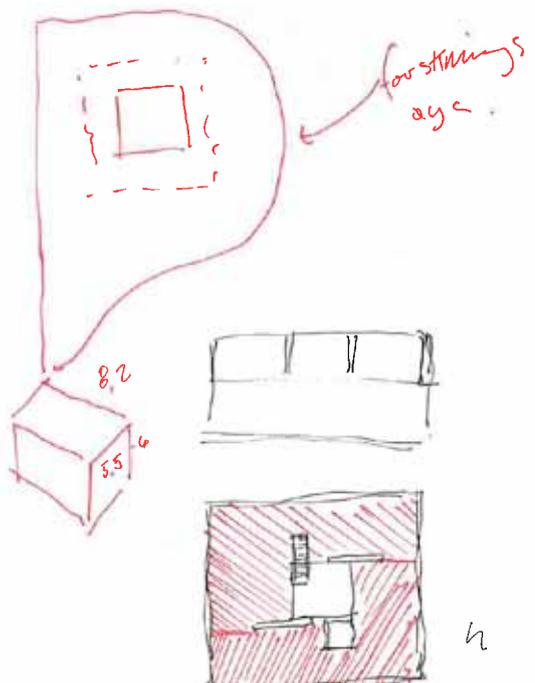


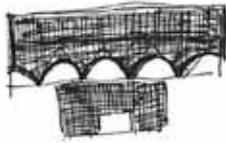


Koblinger: alle stierne kobler sig på eksisterende, påbegynte stier: bygget er IKKE en destination, men lagt langs en av stierne.



André
93453508





- large plan
- planer av byggs

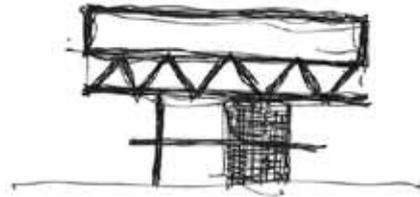
The ^{new} garden follows the same structure as the rest of the garden, connecting to existing paths and is a continuation of the garden structure.

The building is a clear architectural object standing freely in the garden. It is placed so that it's not a destination, but rather something that you discover ~~are~~ along the way.

The ~~slab~~ ^{walls} are the most important structural element, it connects directly with to the roof which is a ~~heavy~~ heavy beam system that carries the cantilever upper floor.



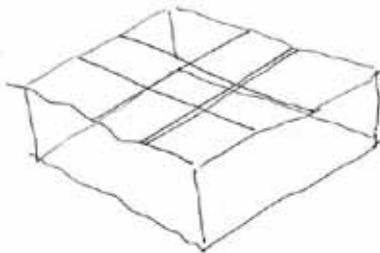
The ~~slab~~ ^{walls} in the core of the building is necessary to bring the technical installations from the ceiling.



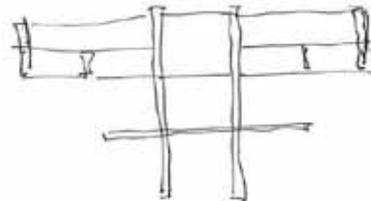
are the elements are dependent on

the boundaries between work and the visiting part of the program is only the separating walls. The arrangement of the plan creates four zones within one ~~space~~ space.

THE RELATION BETWEEN FOUR CLIMATES
the two first floors are straight forward all the plans are straight forward except for the spaces in the roof.



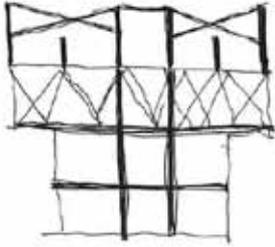
illustrationer som viser rommene med ulike sider av hagen.



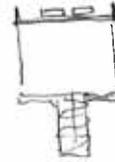
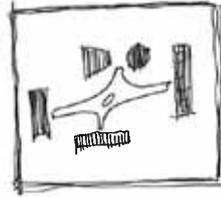
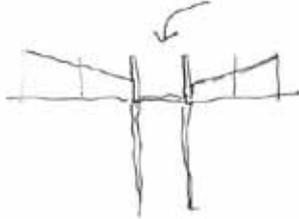
the ceiling as a house

star roof?

"our detail is not to detail"



water collector



DIPLOMA

2017