

de typologie van **DE STERRENWACHT**

BRAM WAUMANS

architectuur **Henk Engel**

bouwtechnologie **Ype Cuperus**

onderzoek **John Heintz**

gecommitteerde **Bas Gremmen**

P5 8 november 2013



INHOUD

deel 1 – onderzoek

deel 2 – interpretatie van onderzoek

deel 3 – ontwikkeling van concept

deel 4 – symbolische doorwerking van ontwerp

deel 5 – eerlijk en begrijpelijk ontwerp

context – kritisch regionalisme

deel 1

ONDERZOEK

onderzoek
ASTRONOMIE

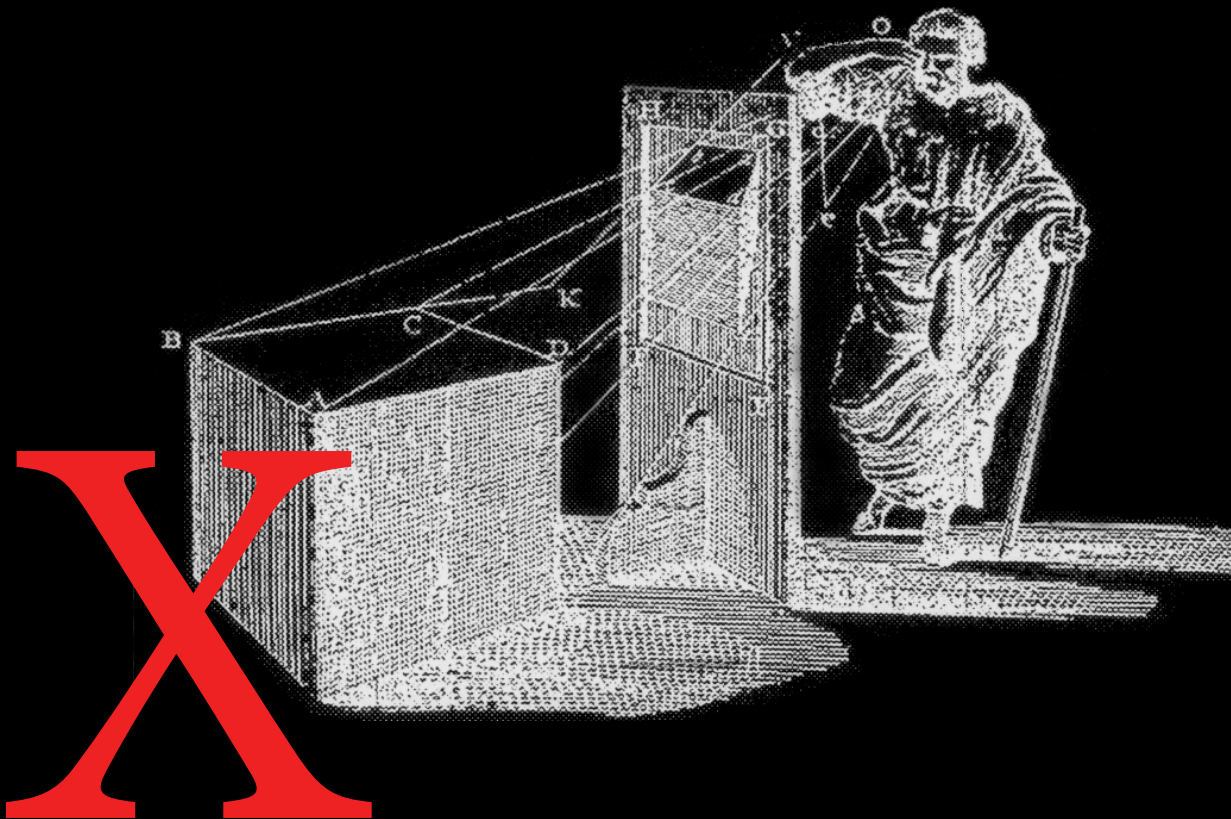
metafysisch en praktisch
citizen science

afgebakende groep
bewezen modellen
rust versus uitdaging

ASTRONOMIE EN TYPOLOGIE

onderzoek

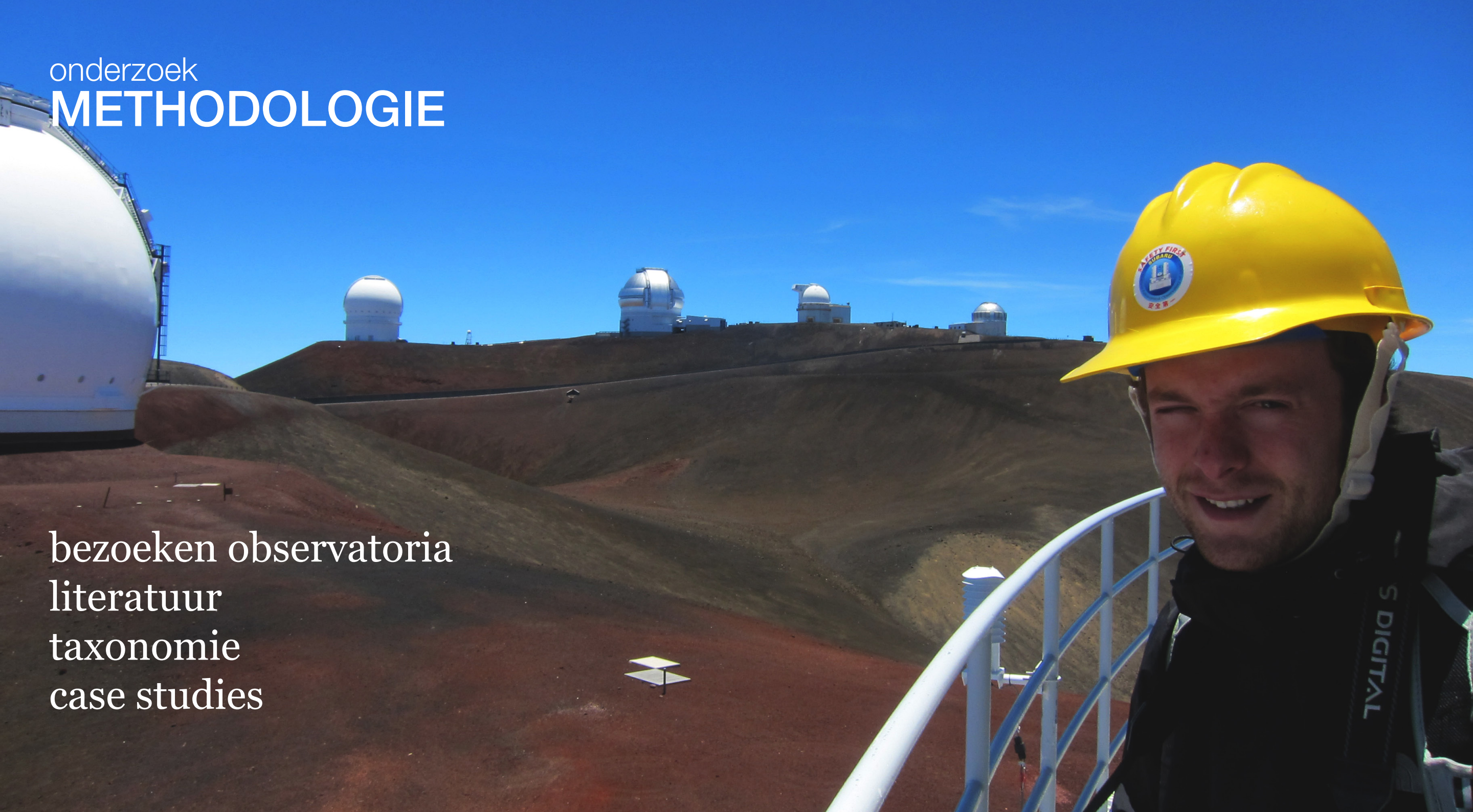
quattrocentos
ontologisch midden – het oog
meetkunde



Welke trends kunnen gevonden worden in de ontwikkeling van het sterrenwacht type sinds 1579?

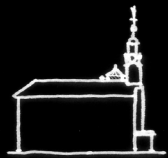
onderzoek
METHODOLOGIE

bezoeken observatoria
literatuur
taxonomie
case studies



ONTWIKKELING VAN DE STERRENWACHT

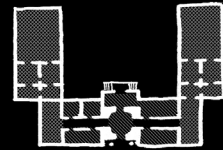
onderzoek



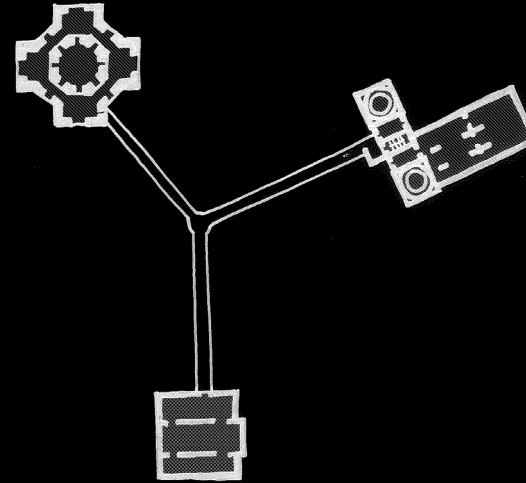
1633



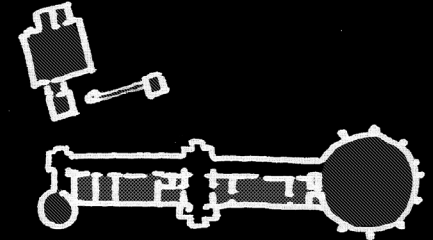
1772



1816

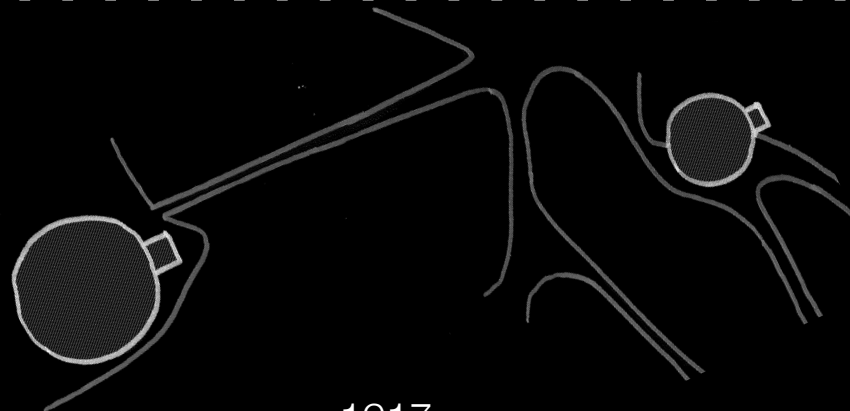


1882

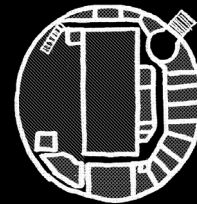


1888

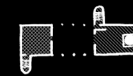
X



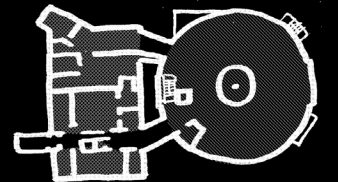
1917



1948

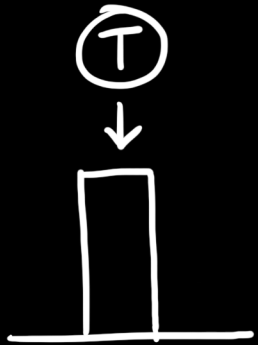


1982

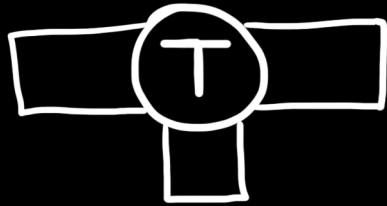


2000

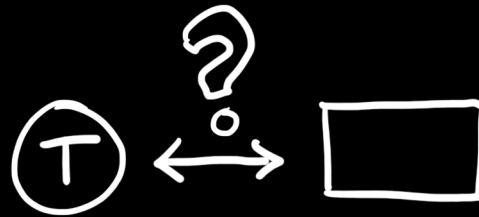
resultaat
FUNCTIONEEL



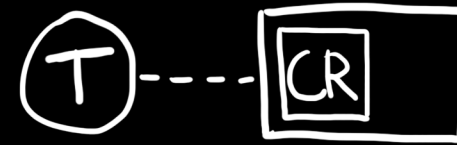
additief



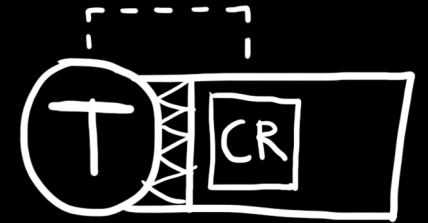
prominente rol



relatie onduidelijk
door astrofysica

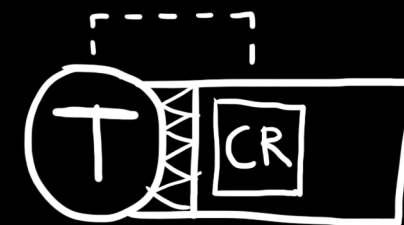


controle kamer
creëert virtuele link

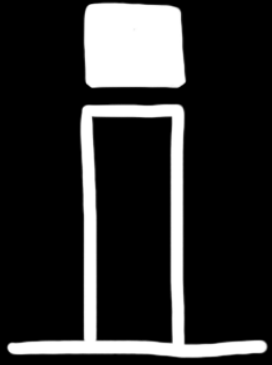


bouwtechniek brengt
gebouw bij elkaar

resultaat FUNCTIONEEL



bouwtechniek brengt
gebouw bij elkaar



tower



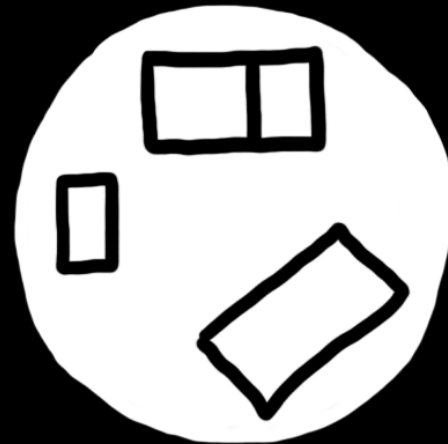
central
dome



decentral
domes



total split



functions
in dome



warm / cold
split

decentraliteit
telescoop prominent
keuze niet evident

deel 2

**INTERPRETATIE
VAN
ONDERZOEK**

programma
VALLEY OF THE MOON ASSOCIATION

onderwijs van gemeenschap
onderdeel van netwerk
actieve leden

programma

AMATEUR STERRENWACHT

STERREN WACHT

telescoop ruimte
werkplekken
controle kamer
bibliotheek

ONDERWIJS

telescoop ruimte
hoorzaal

ONDER STEUNEND

entrée hal
koffie corner
toiletten

PRIVÉ

slaapvertrekken
lounge, keuken
badkamer

werkplaats
opslag
installatie ruimte

twee telescopen

constructie RANDVOORWAARDEN

lichte constructie
uit elkaar
hoogste punt



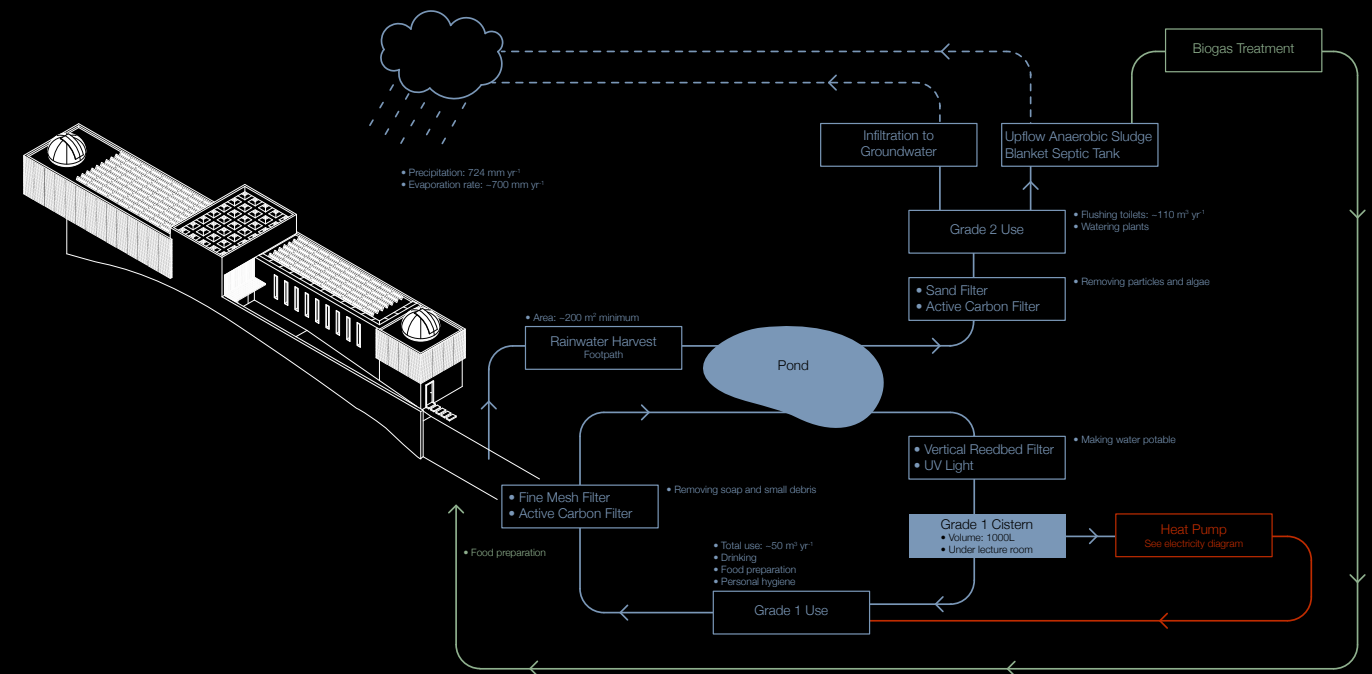
LUCÉRAM, CÔTE D'AZUR

locatie

goede condities voor observatie
professionele observatoria nabij.
heuveldorp uit elfde eeuw



locatie vraagt om
autarkisch ontwerp



locatie

RELATIE MET DORP



weg omhoog
zichtbaarheid



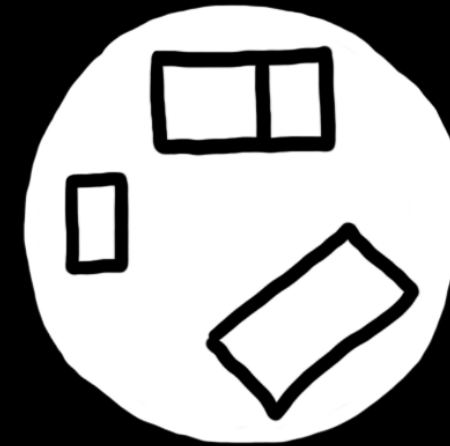
KEUZE FORMEEL CLUSTER^{model}



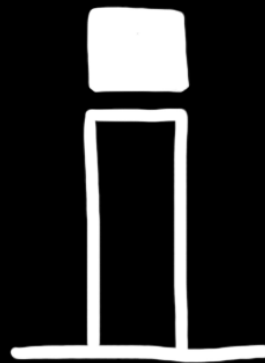
warm / cold
split



central
dome



functions in dome



tower



complete split



decentral
domes

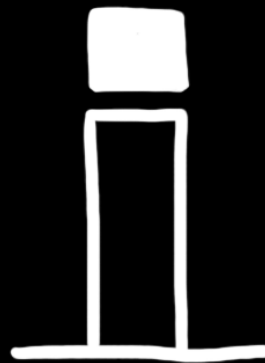
KEUZE FORMEEL CLUSTER^{model}



warm / cold
split



central
dome



tower



complete split

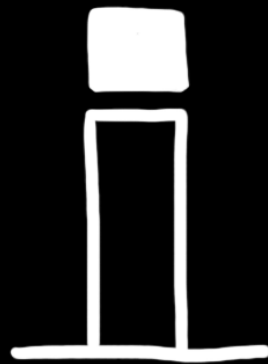


decentral
domes

KEUZE FORMEEL CLUSTER^{model}



warm / cold
split



tower

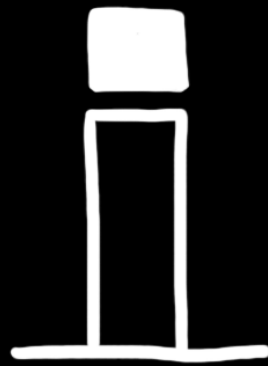


complete split



decentral
domes

KEUZE FORMEEL CLUSTER^{model}



tower



complete split



decentral
domes

KEUZE FORMEEL CLUSTER^{model}



complete split



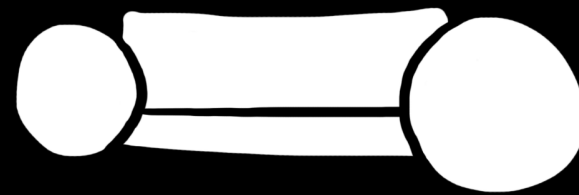
decentral
domes

KEUZE FORMEEL CLUSTER^{model}



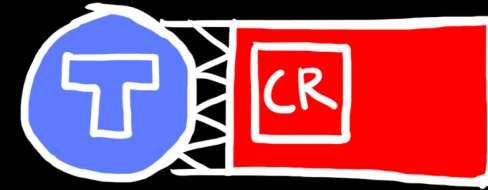
decentral
domes

FORMEEL EN FUNCTIONEEL^{model}

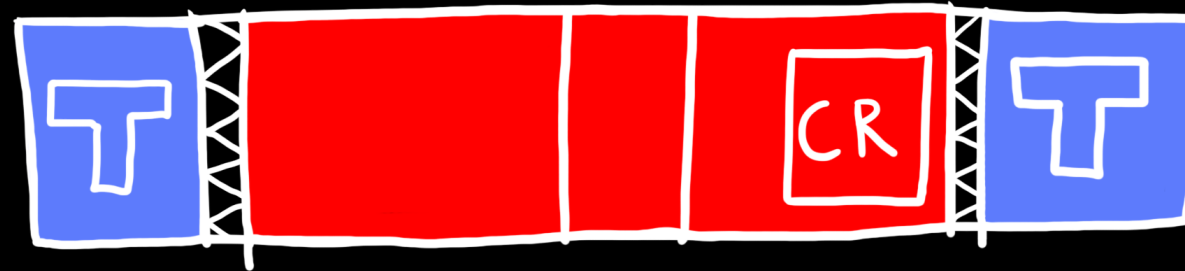


FORMEEL

+



FUNCTIONEEL



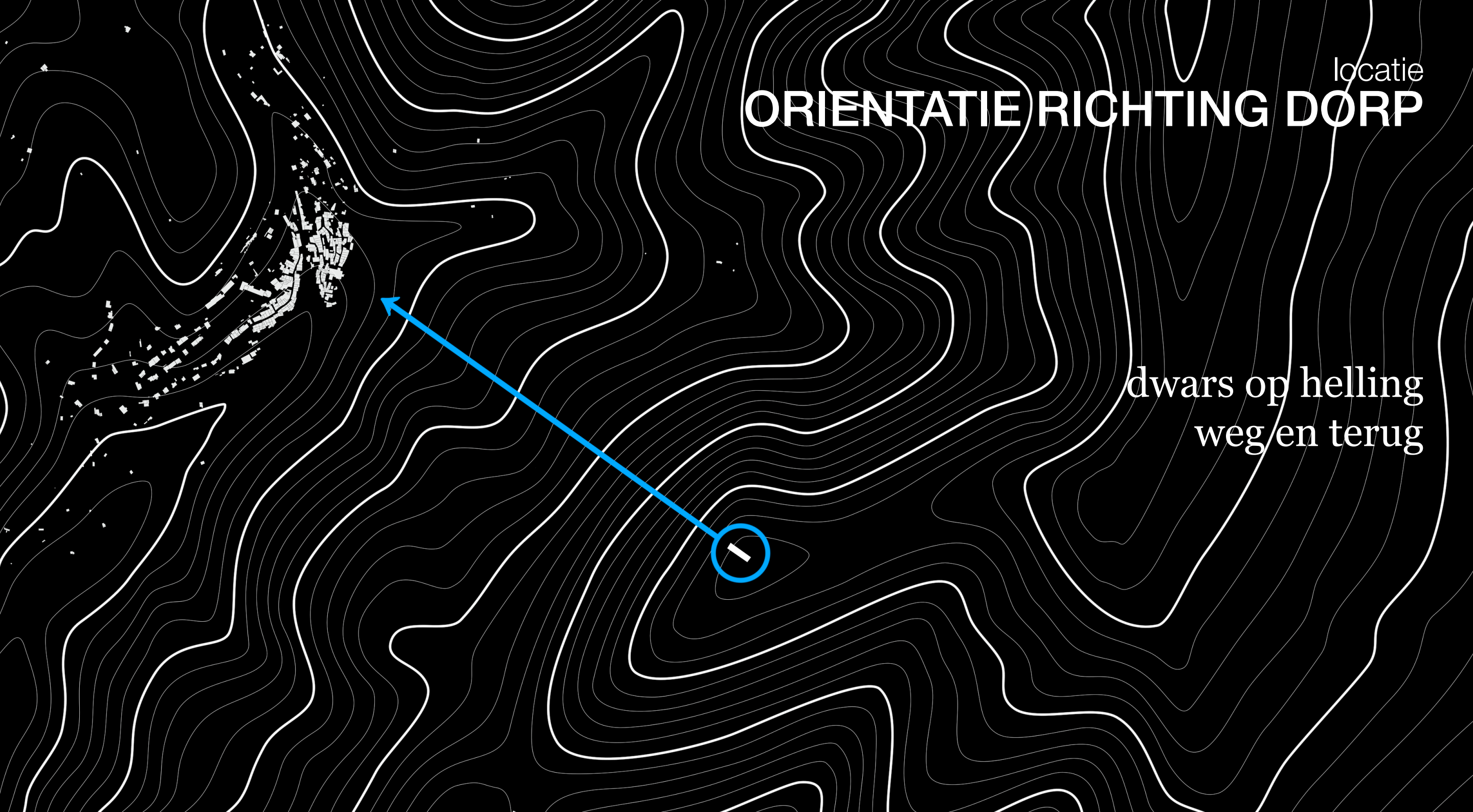
deel 3

**ONTWIKKELING
VAN
CONCEPT**

ORIENTATIE RICHTING DORP

locatie

dwars op helling
weg/en terug



locatie

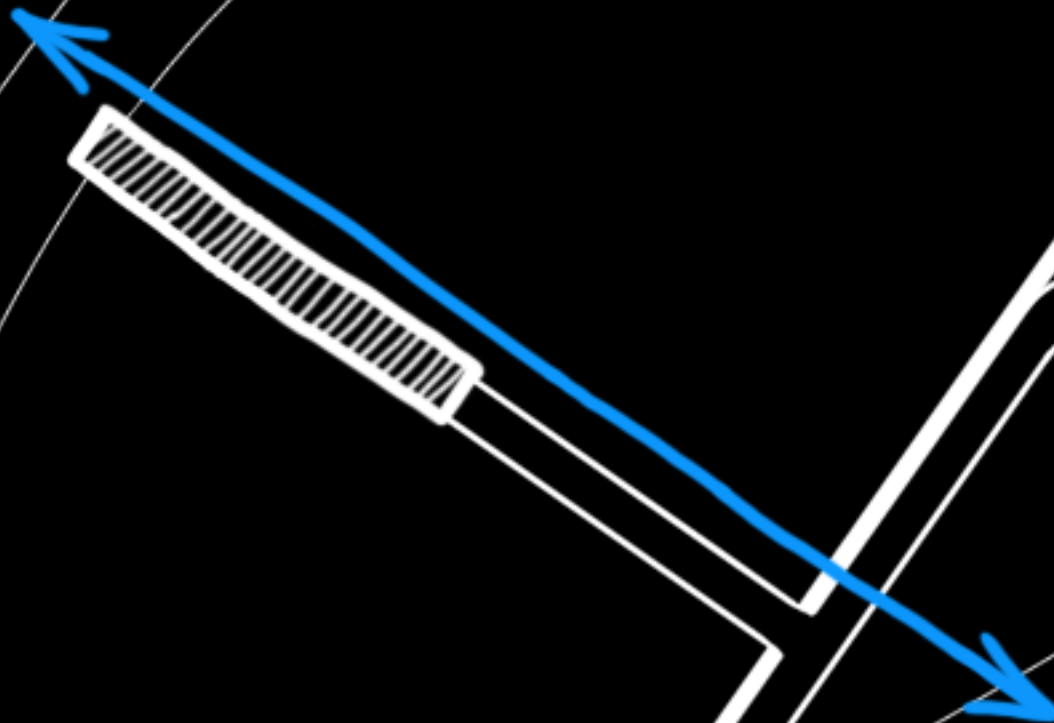
ORIENTATIE RICHTING DORP

dwars op helling
weg/en terug



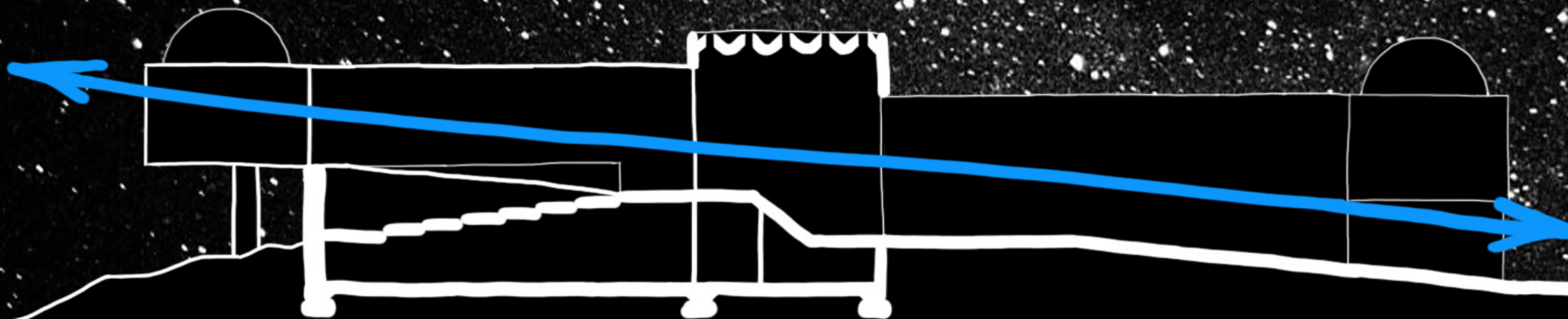
locatie
SITE INDELING

twee assen
in één steek richting dorp



locatie
WEG OMHOOG

weg naar sanctum sanctorum
telescoopruimte laat aarde achter zich
stalen constructie voor uitkraging
pier telescoop geïsoleerd



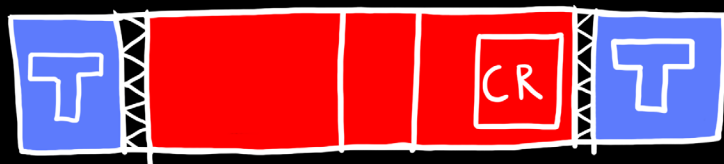
programma
PROGRAMMA OPDELING

	PRIVÉ	PUBLIEK
ASTRONOMIE	bureau, telescoop, controle kamer	hoorzaal, telescoop
ONDERSTEUNEND	verblijfsvertrekken, werkplaats	toiletten, garderobe

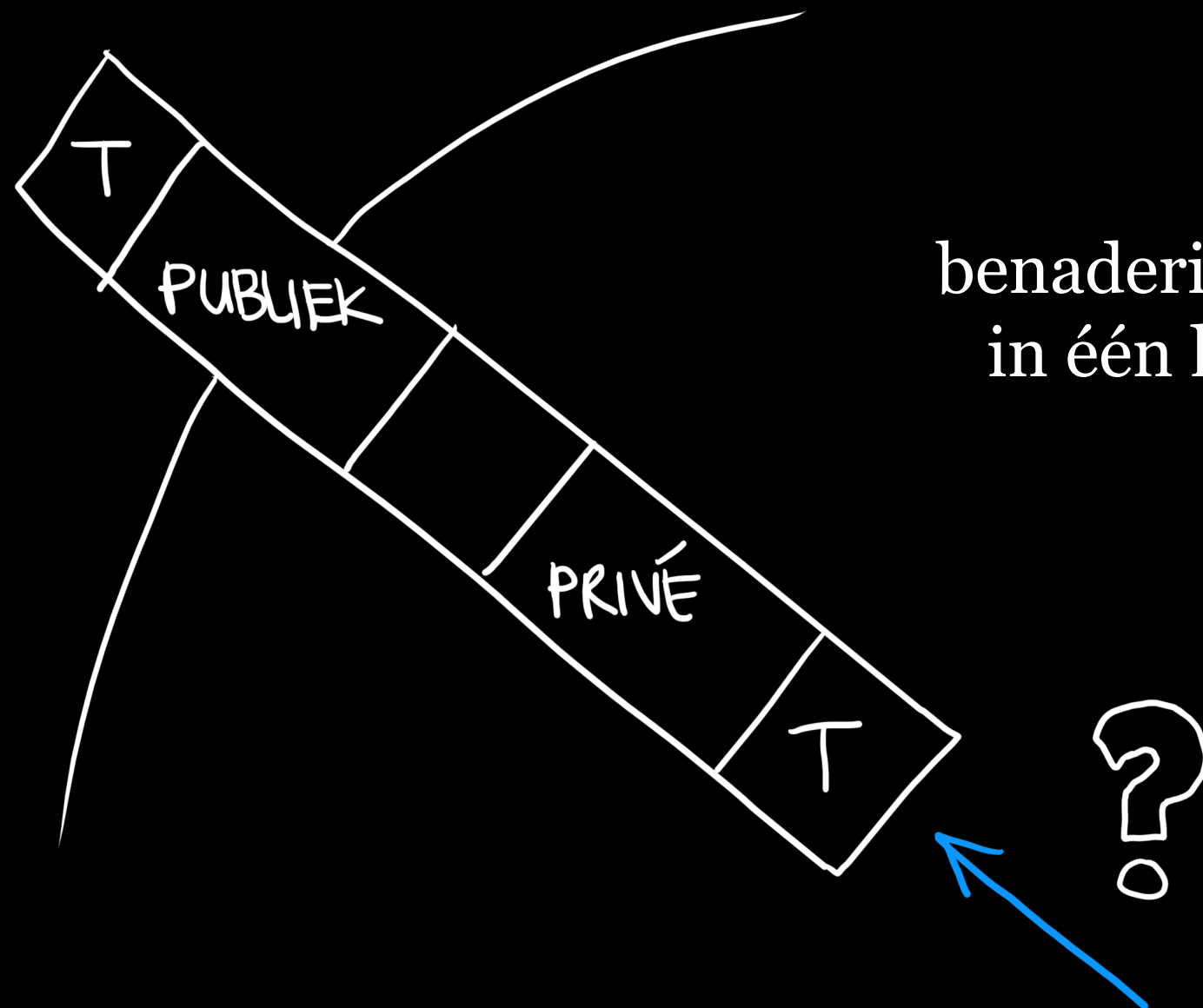
programma
PROGRAMMA OPDELING

entree hal als knoop



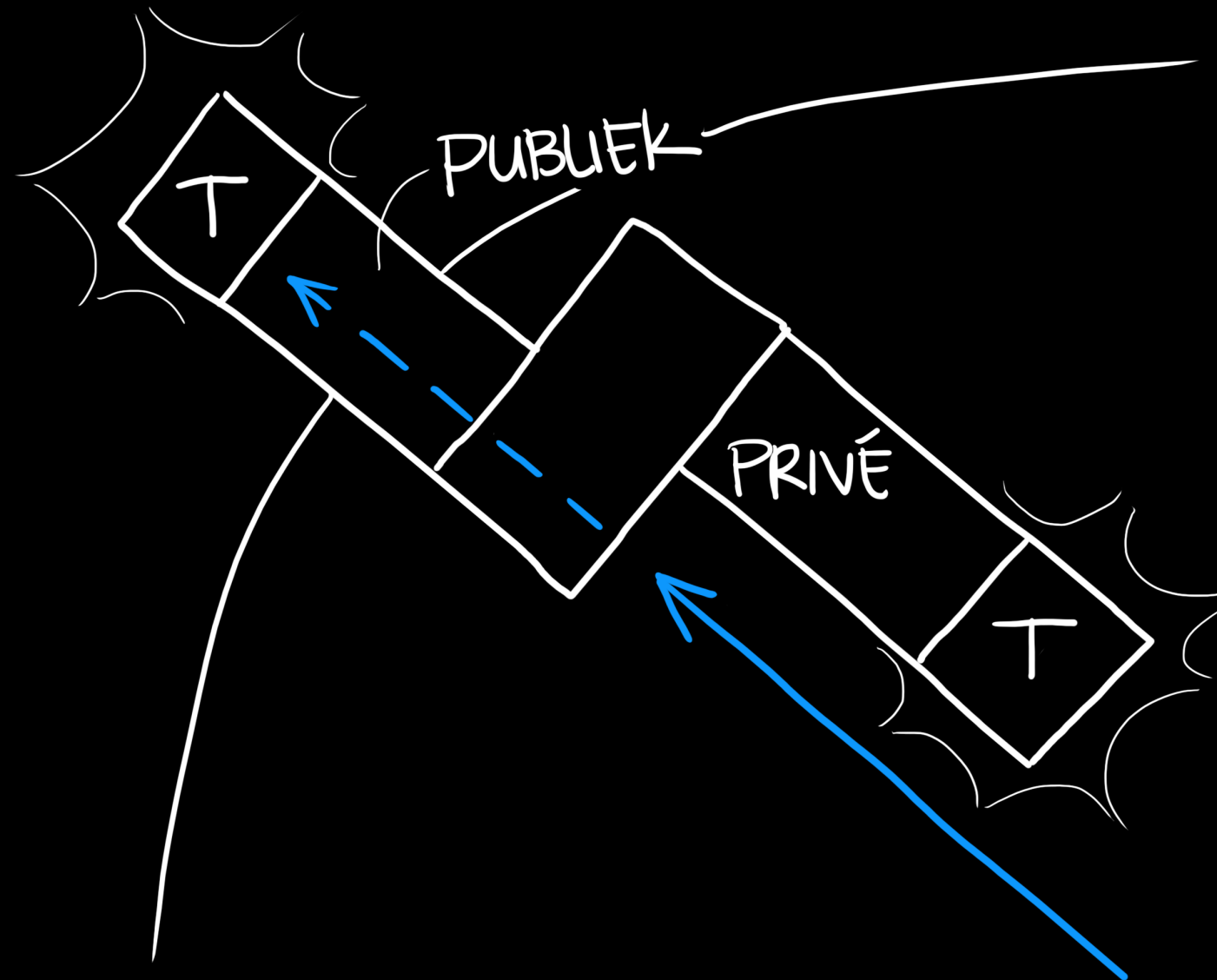


^{locatie} PUBLIEK EN PRIVE



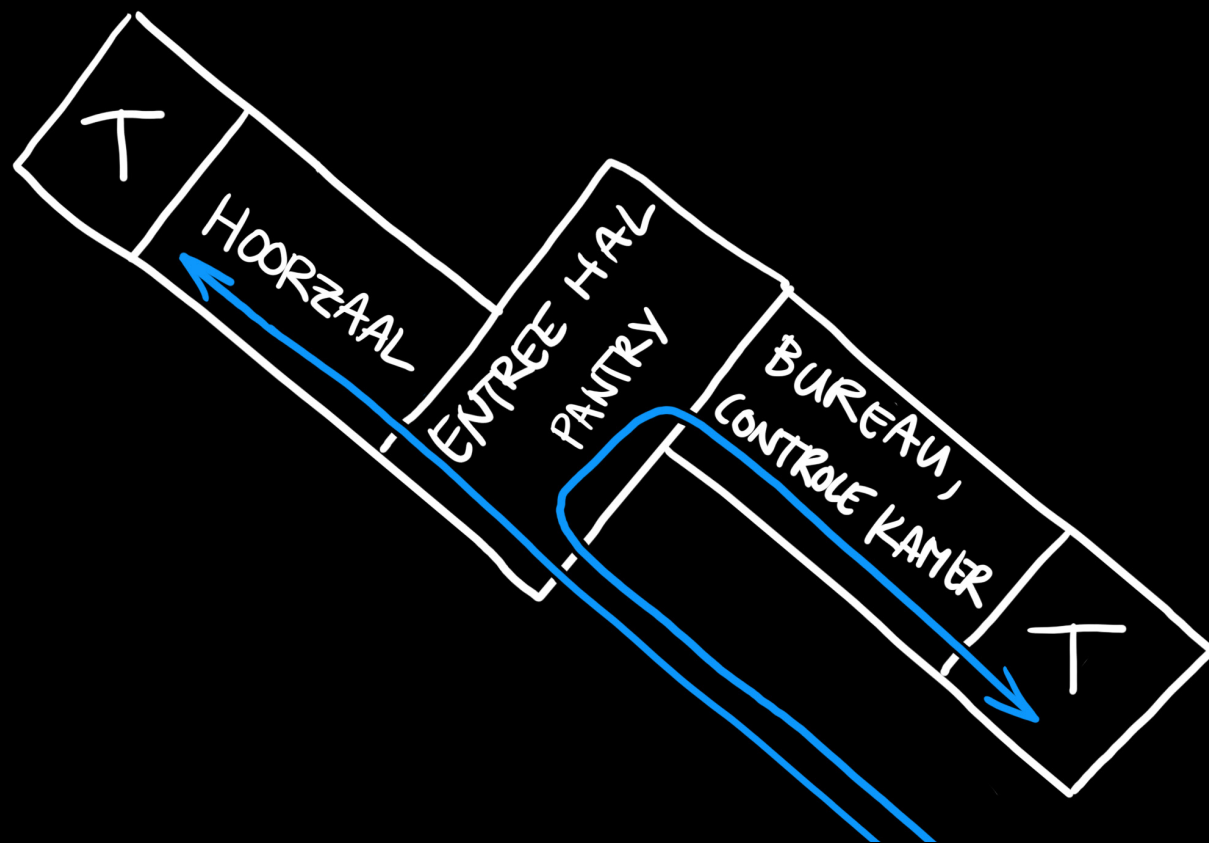
benadering moet duidelijk
in één lijn weg van aarde

locatie
VERSCHUIVING

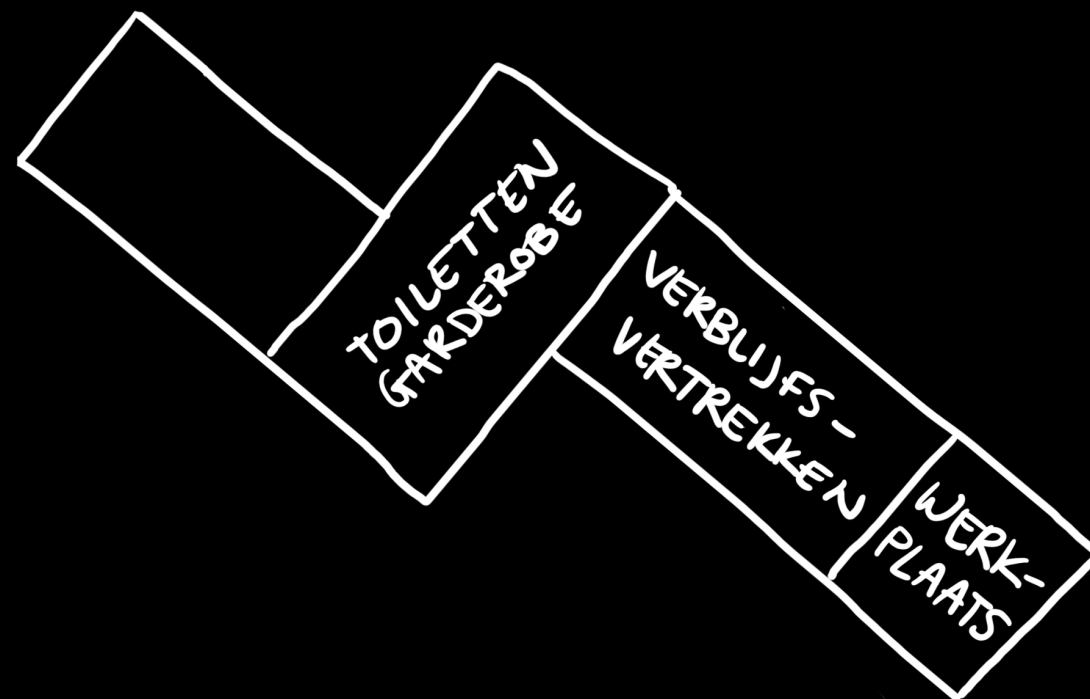


nadruk telescopen
parallele beweging

programma
PUBLIEK EN PRIVE
ASTRONOMIE EN ONDERSTEUNEND



boven verdieping

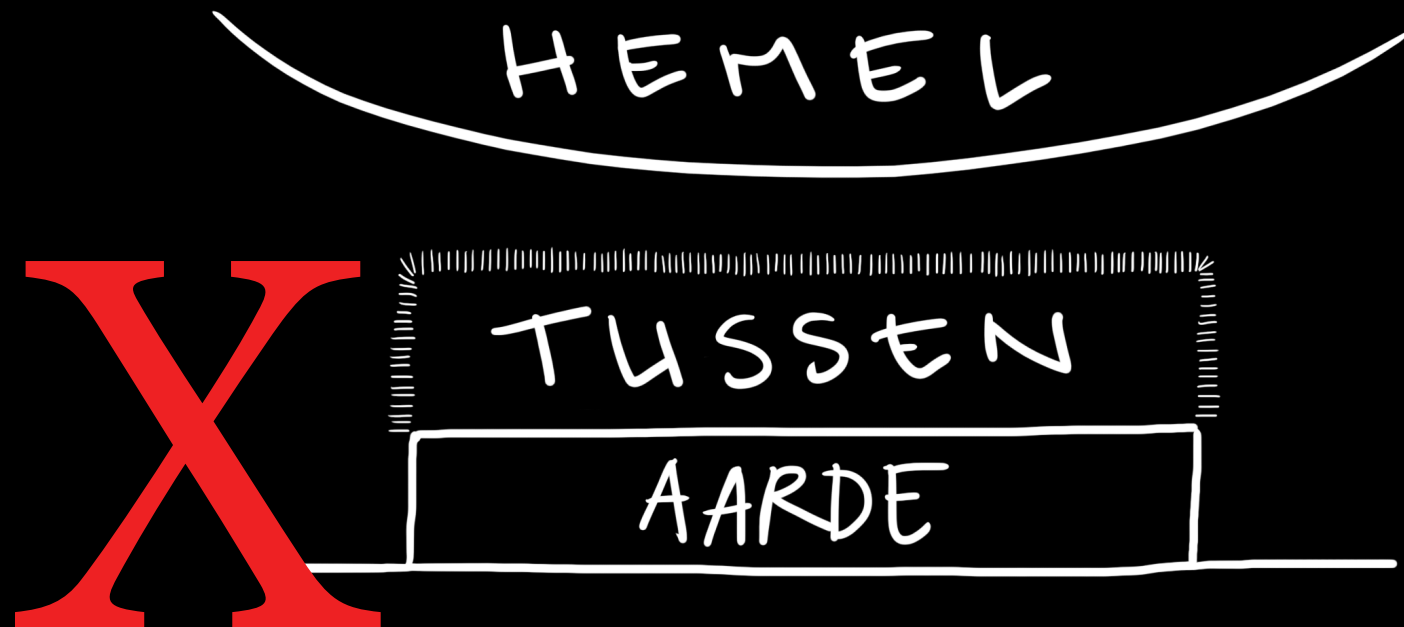


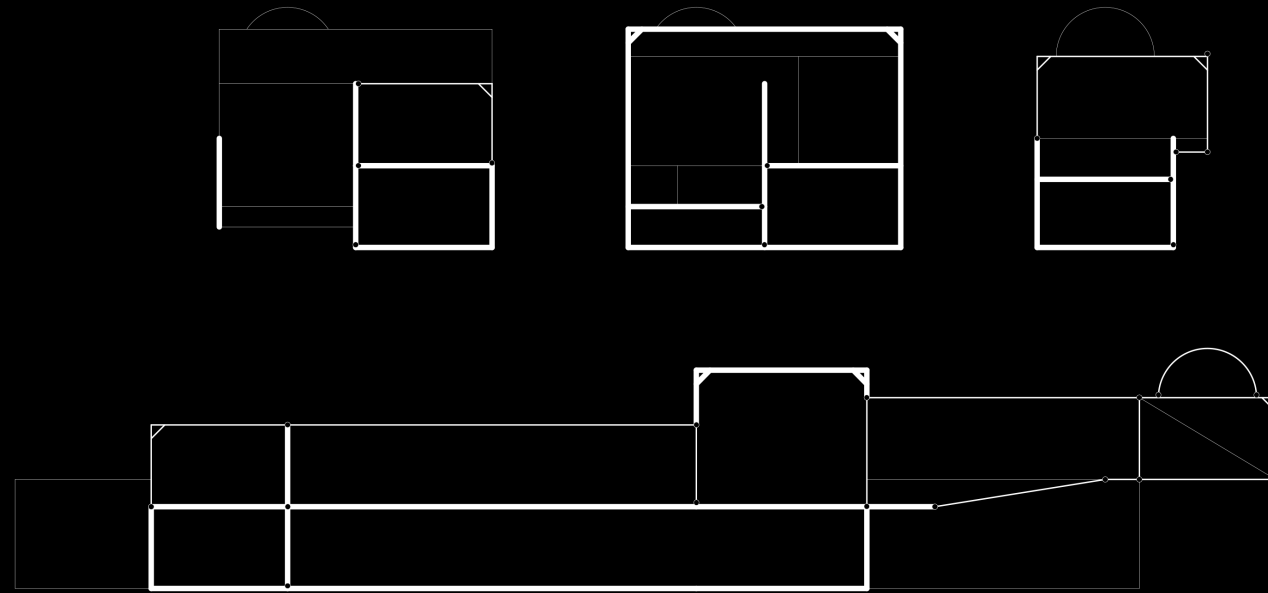
beneden verdieping

dualisme
HEMEL EN AARDE



traditie van bouwen in Alpen
vertaling van schema
ongedefinieerd – concreet
ook in interieur





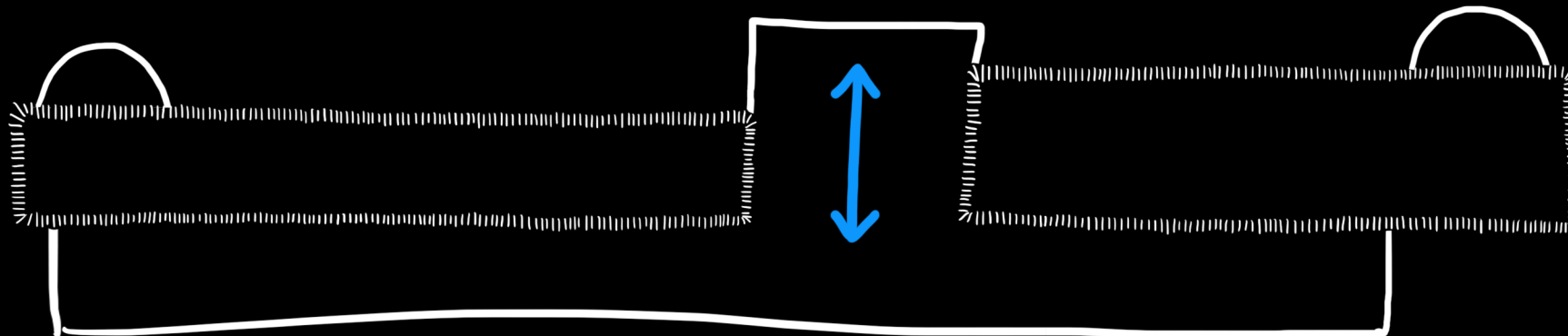
dualisme
HEMEL EN AARDE

dragend versus gedragen
telescoop pier geïsoleerd



^{dualisme} KOLOSSALE ORDE

doorbreking van stapeling
verticale hiërarchie



concept

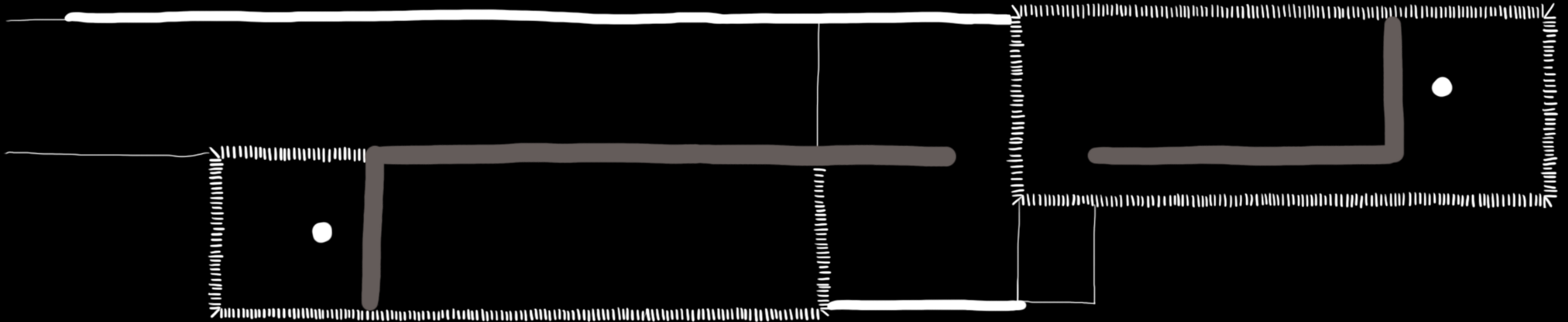
TEKTONISCH CONCEPT

ruggengraat

geeft horizontale hiërarchie

circulatie zone

doorbreekt kruissymmetrie



concept

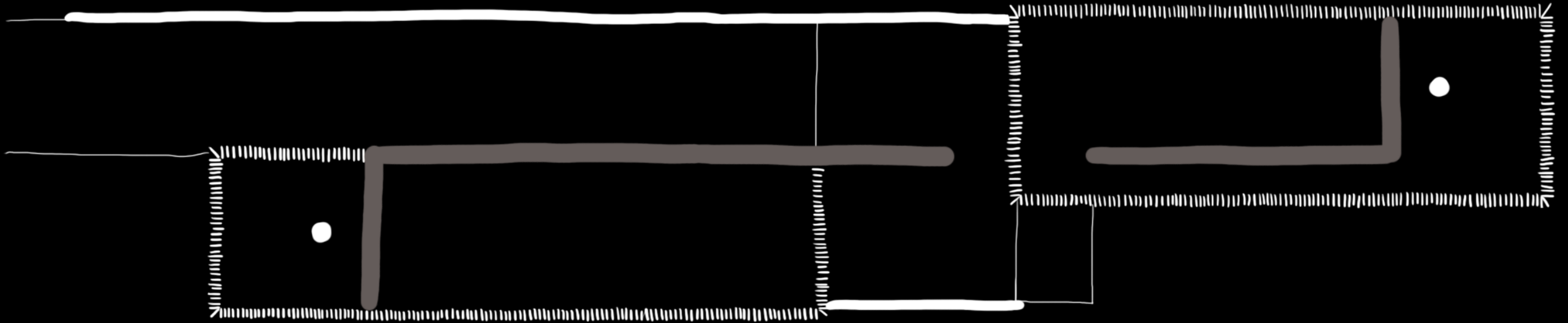
TEKTONISCH CONCEPT

middenmuur

verbijzondering van beton

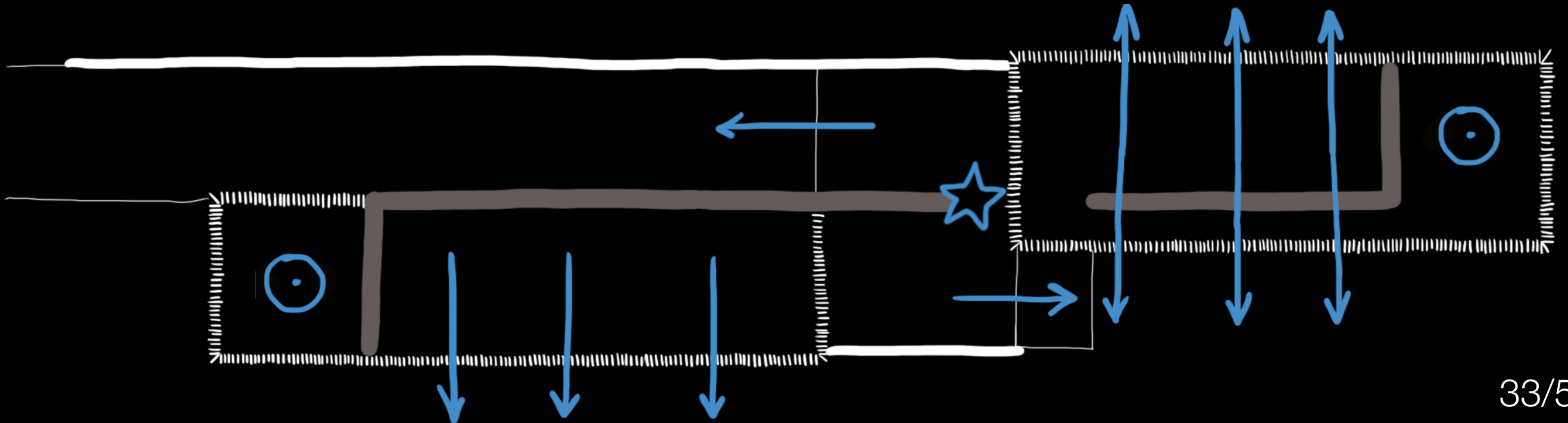
houdt ontwerp bij elkaar

telescoopruimte laat aarde achter zich



concept
ORIENTATIE

middenmuur schermt privé vleugel af
per ruimte andere kijkrichting
één punt voor overzicht plan



de typologie van
DE STERRENWACHT

BRAM WAUMANS
architectuur Henk Engel
bouwtechnologie Ype Cuperus
onderzoek John Heintz
P4 October 2013

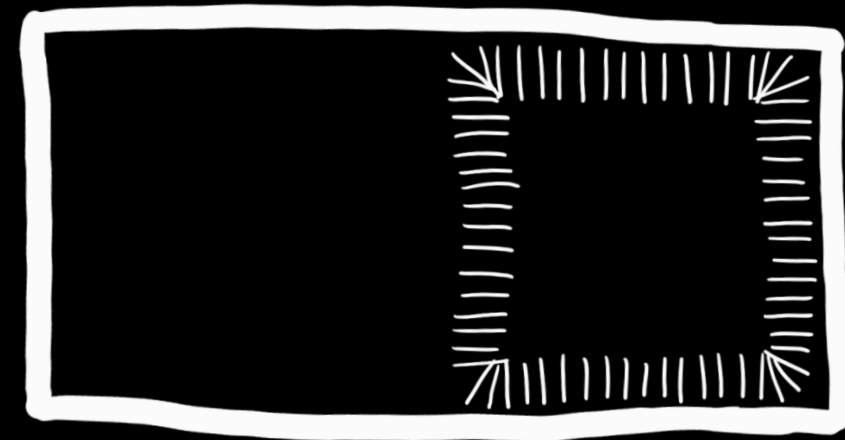
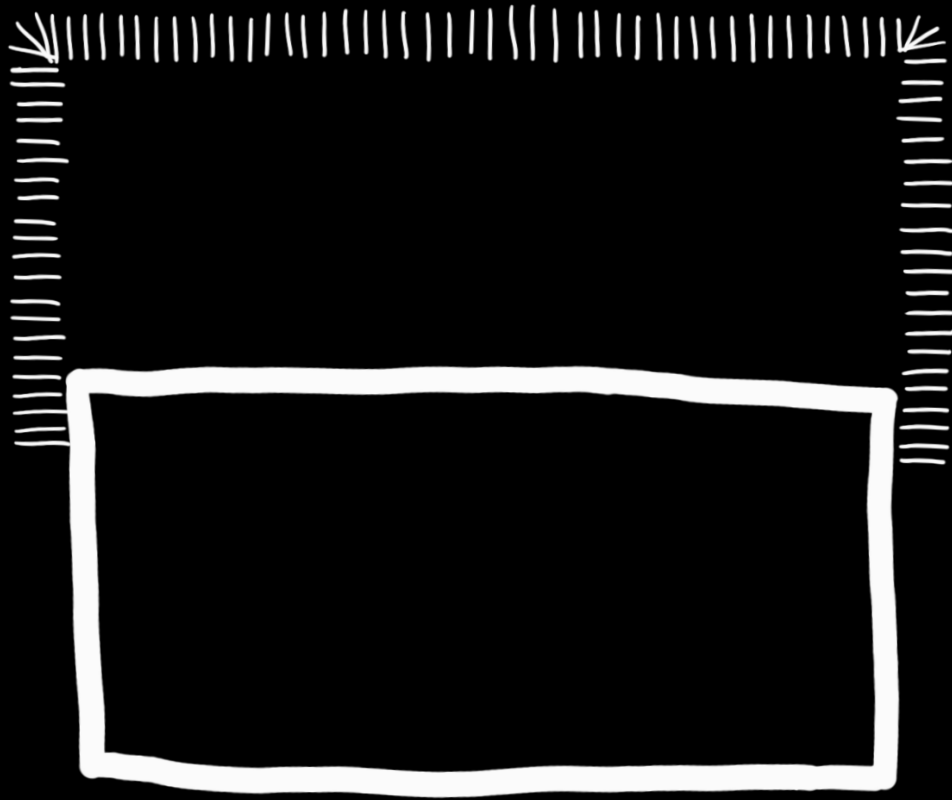
X

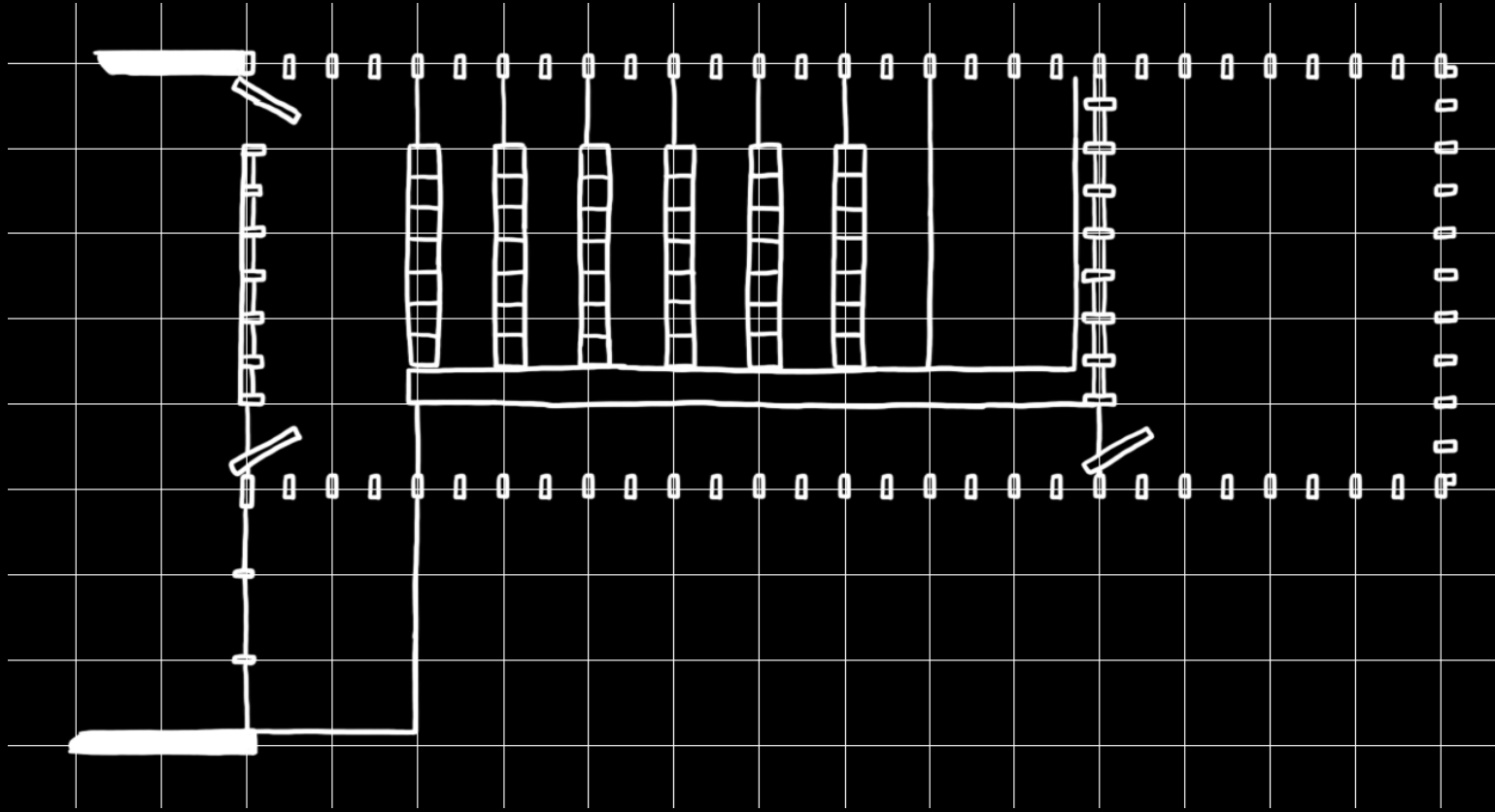
deel 4

**SYMBOLISCHE
DOORWERKING
VAN ONTWERP**

doorwerking schema
TIJDELIJK EN PERMANENT

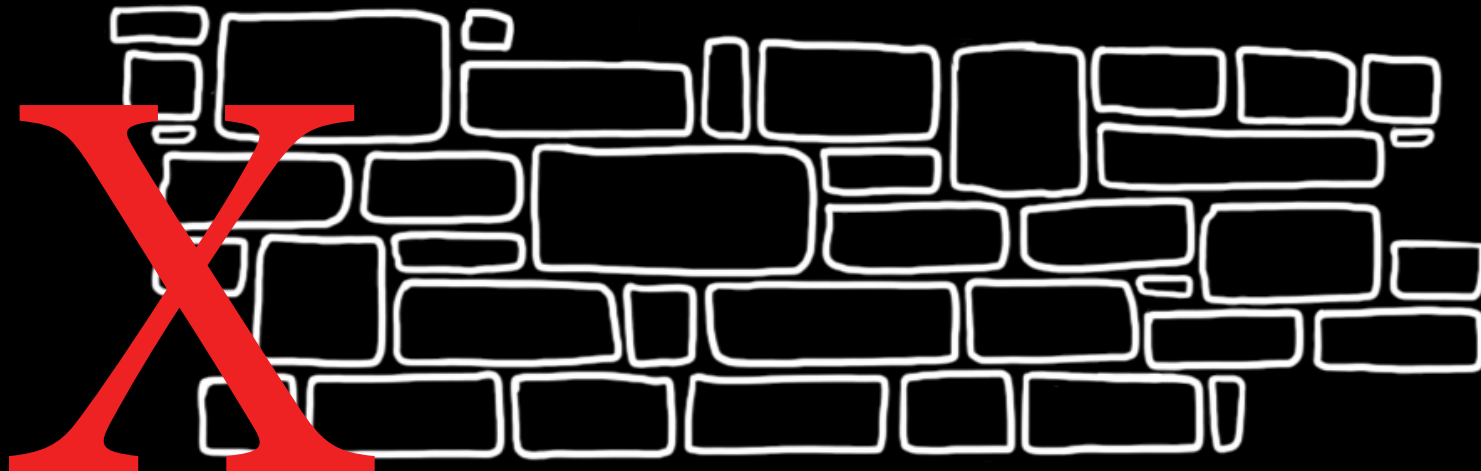
dualisme gepolariseerd
permanent skelet met tijdelijke invulling
interieur in kelder additief





doorwerking
GRID

Ptolemaïsche renaissance
uniformiteit
hemelse perfectie





KOPER EN STAAL

dualisme

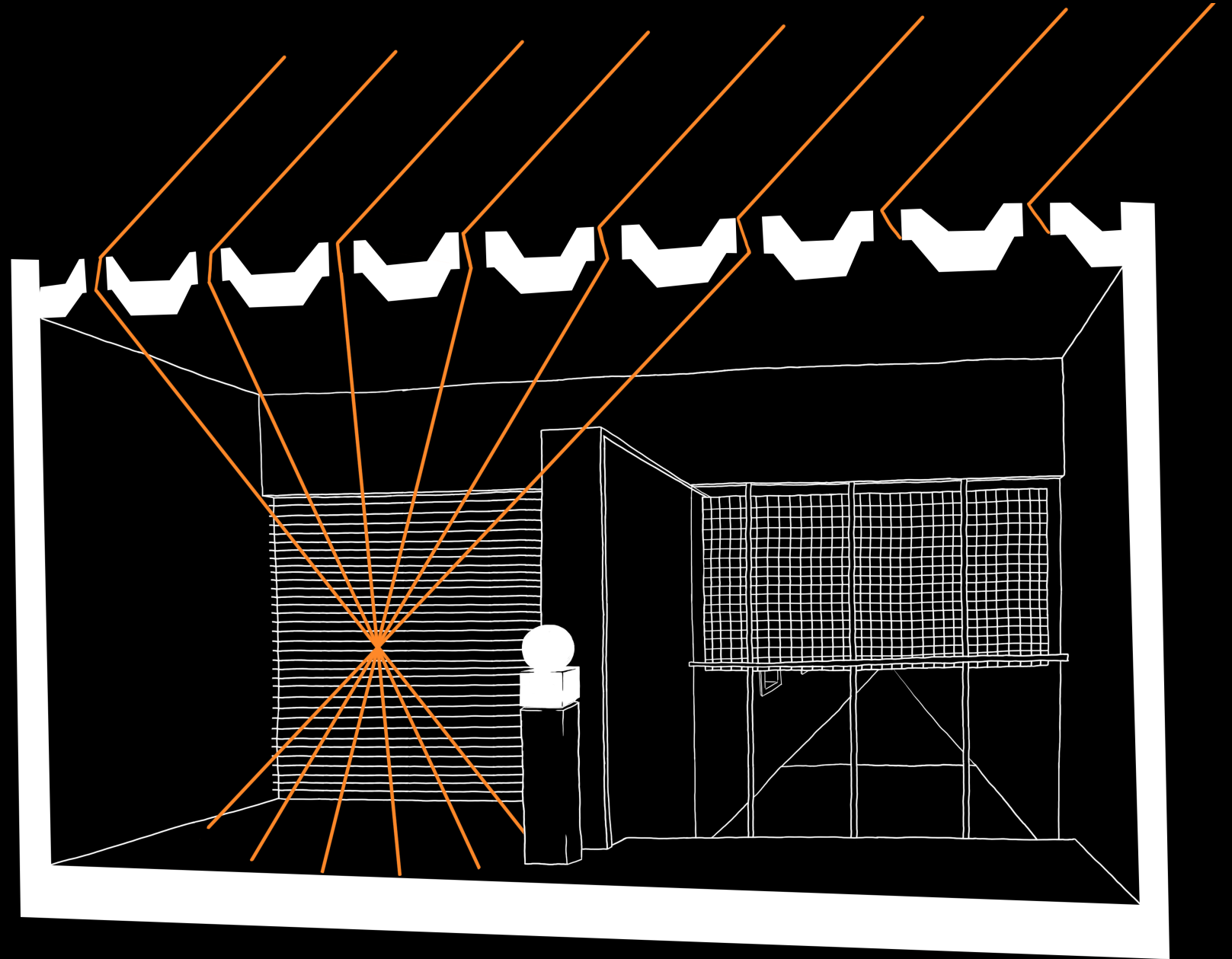


warm en koud
hemelse en aardse toevoeging
patina op koepels



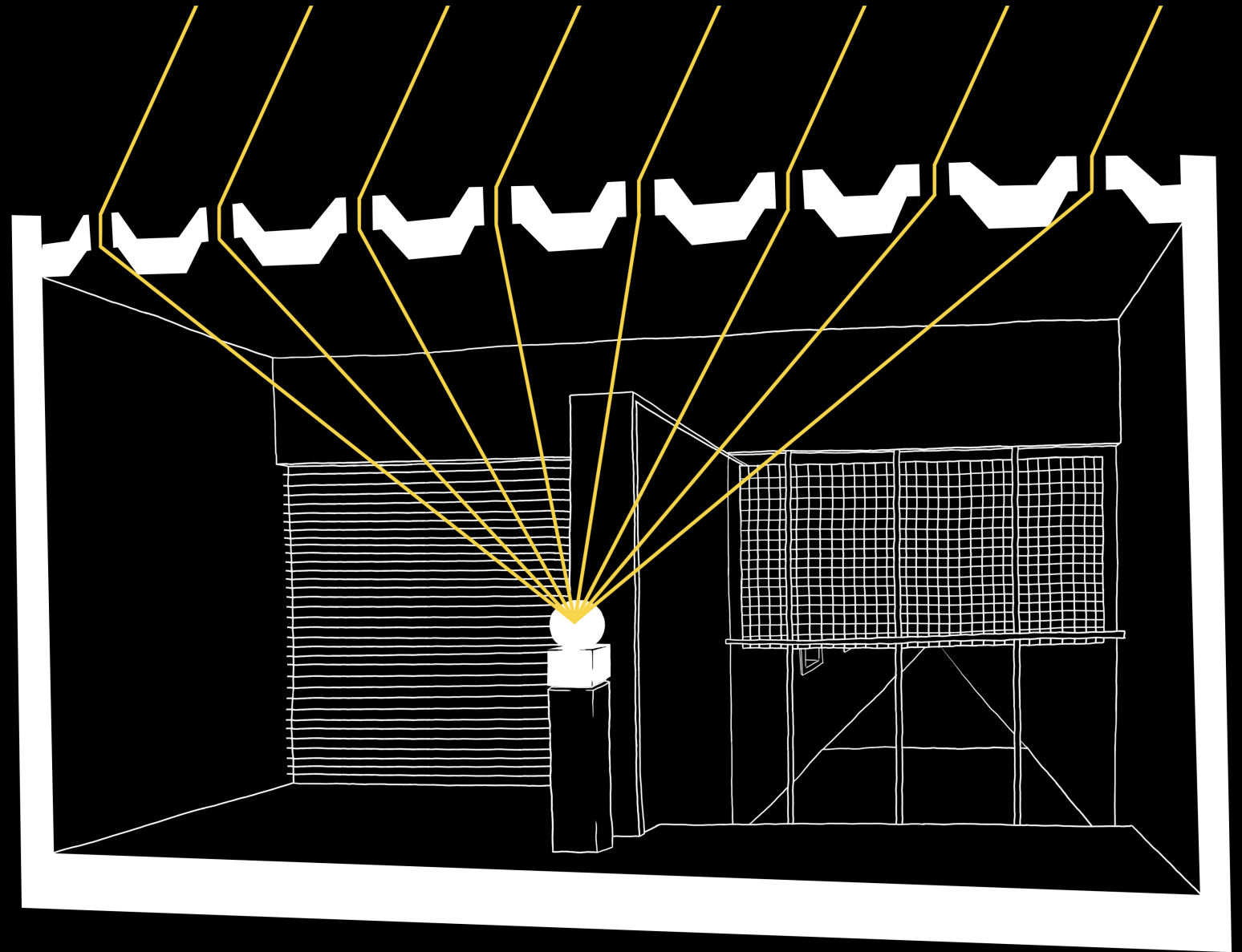
doorwerking
ENTREE HAL

grid voor uniformiteit
dispersie



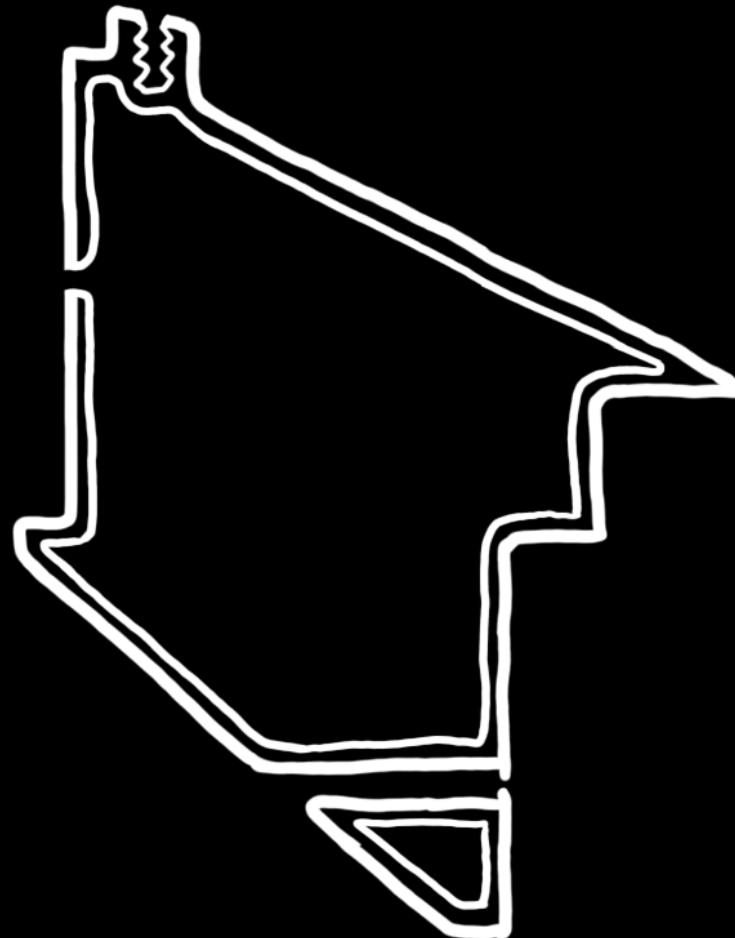
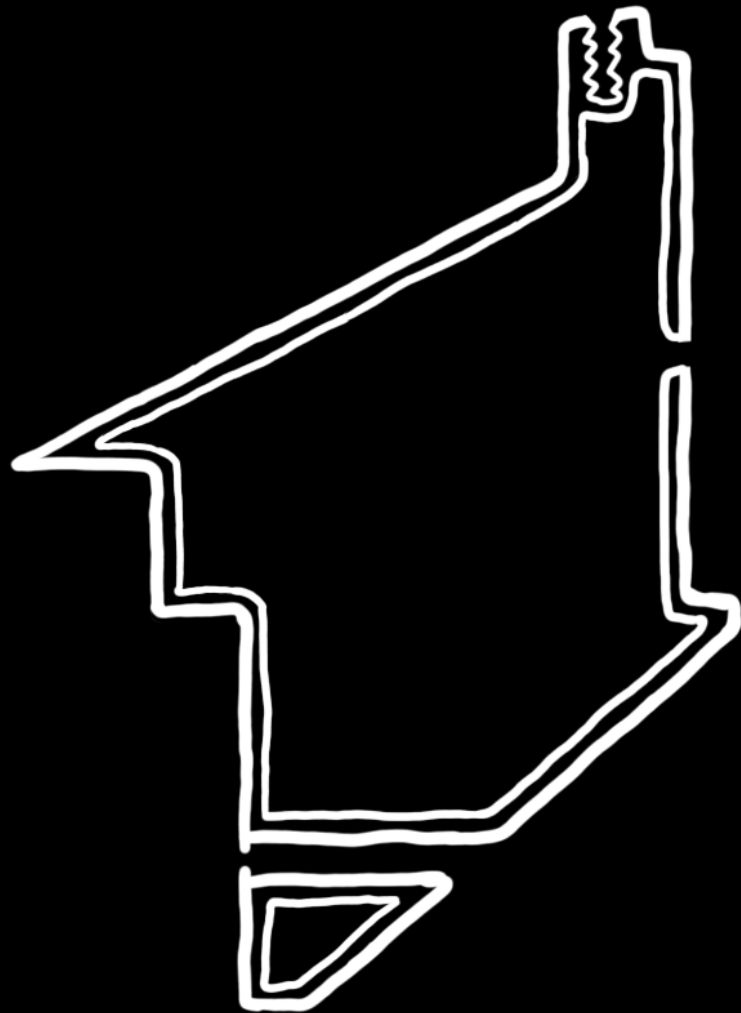
doorwerking
ENTREE HAL

archaeoastronomie
cyclisch dag en jaar



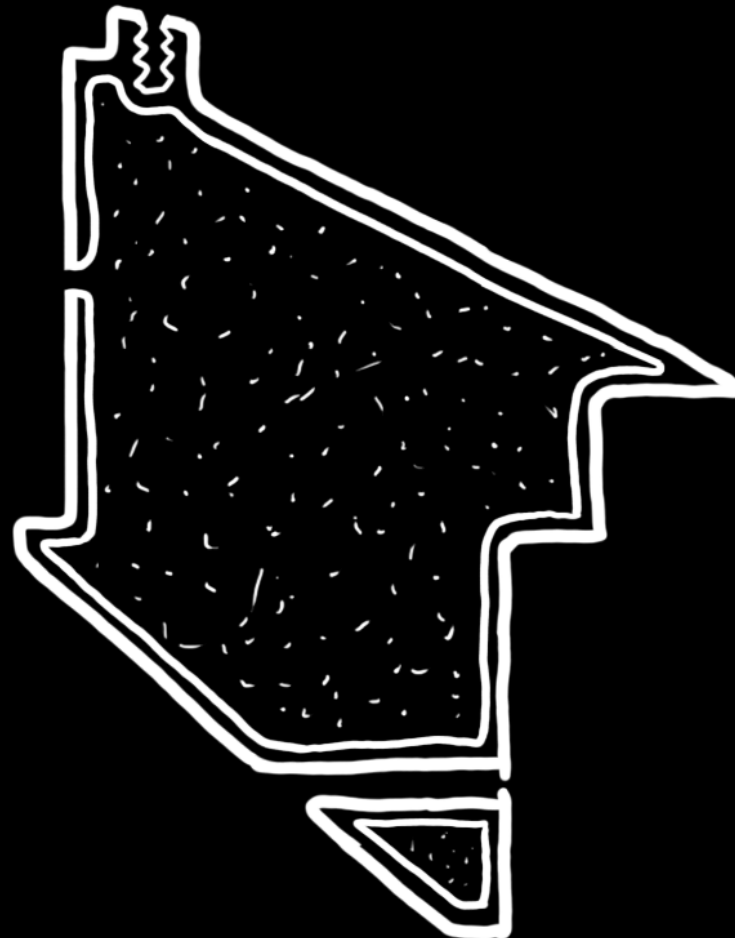
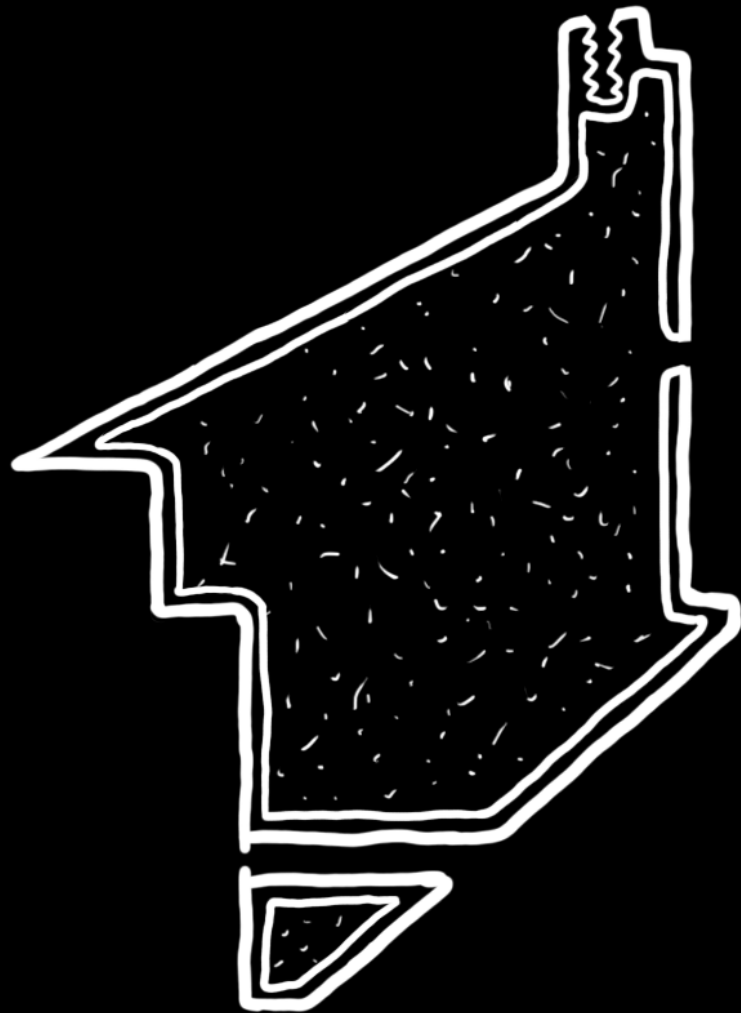
entree hal

PREFAB ASSEMBLY



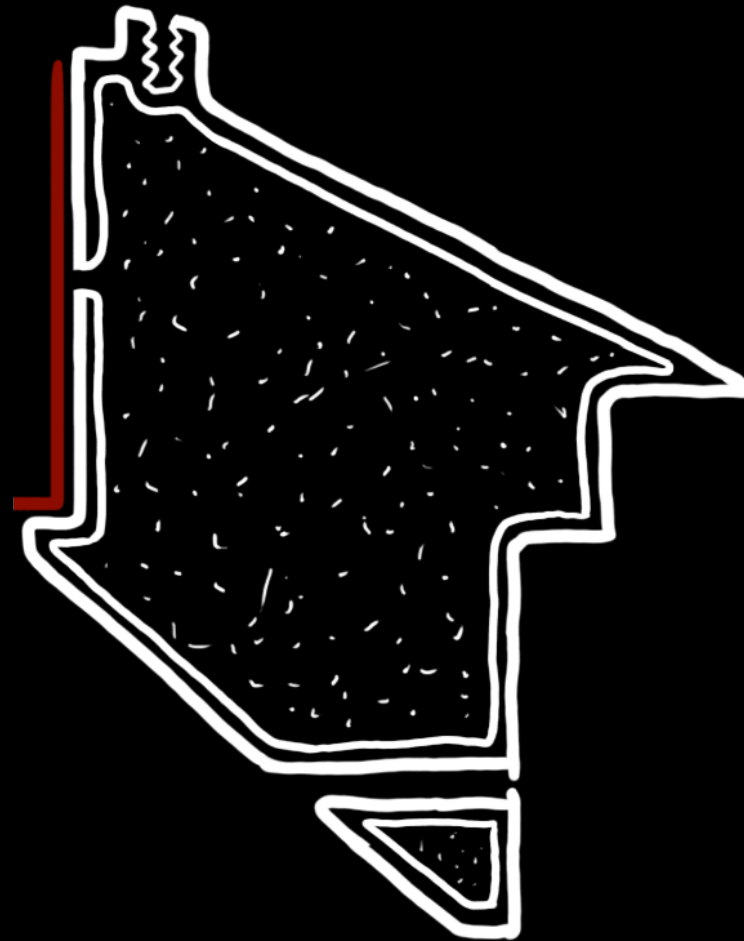
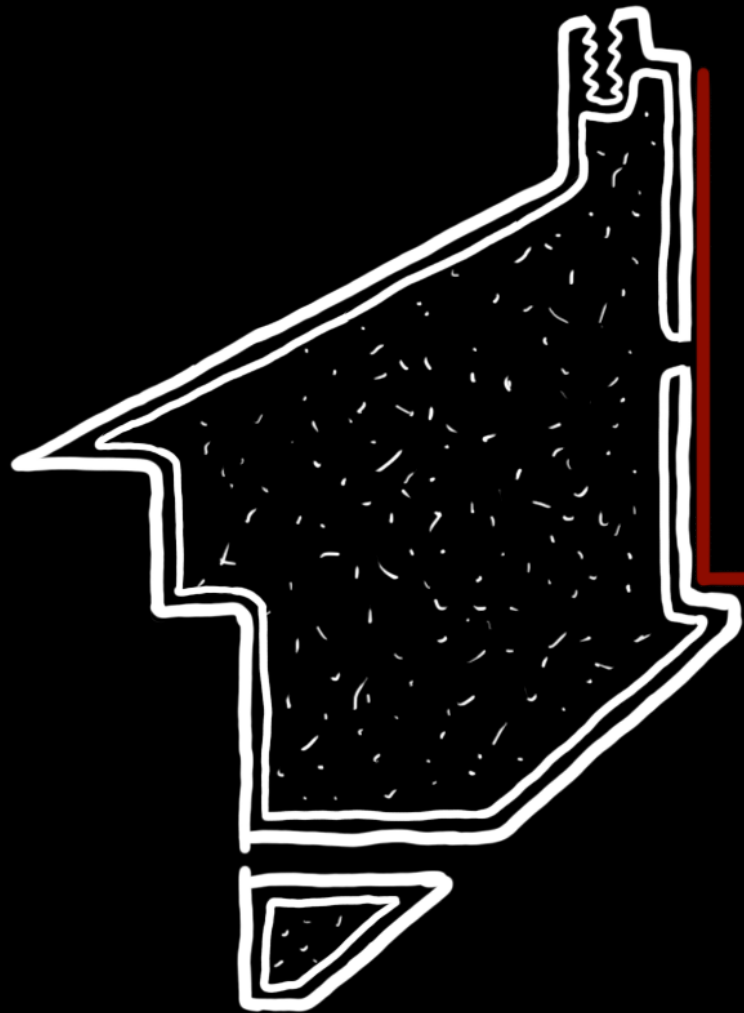
entree hal

PREFAB ASSEMBLY



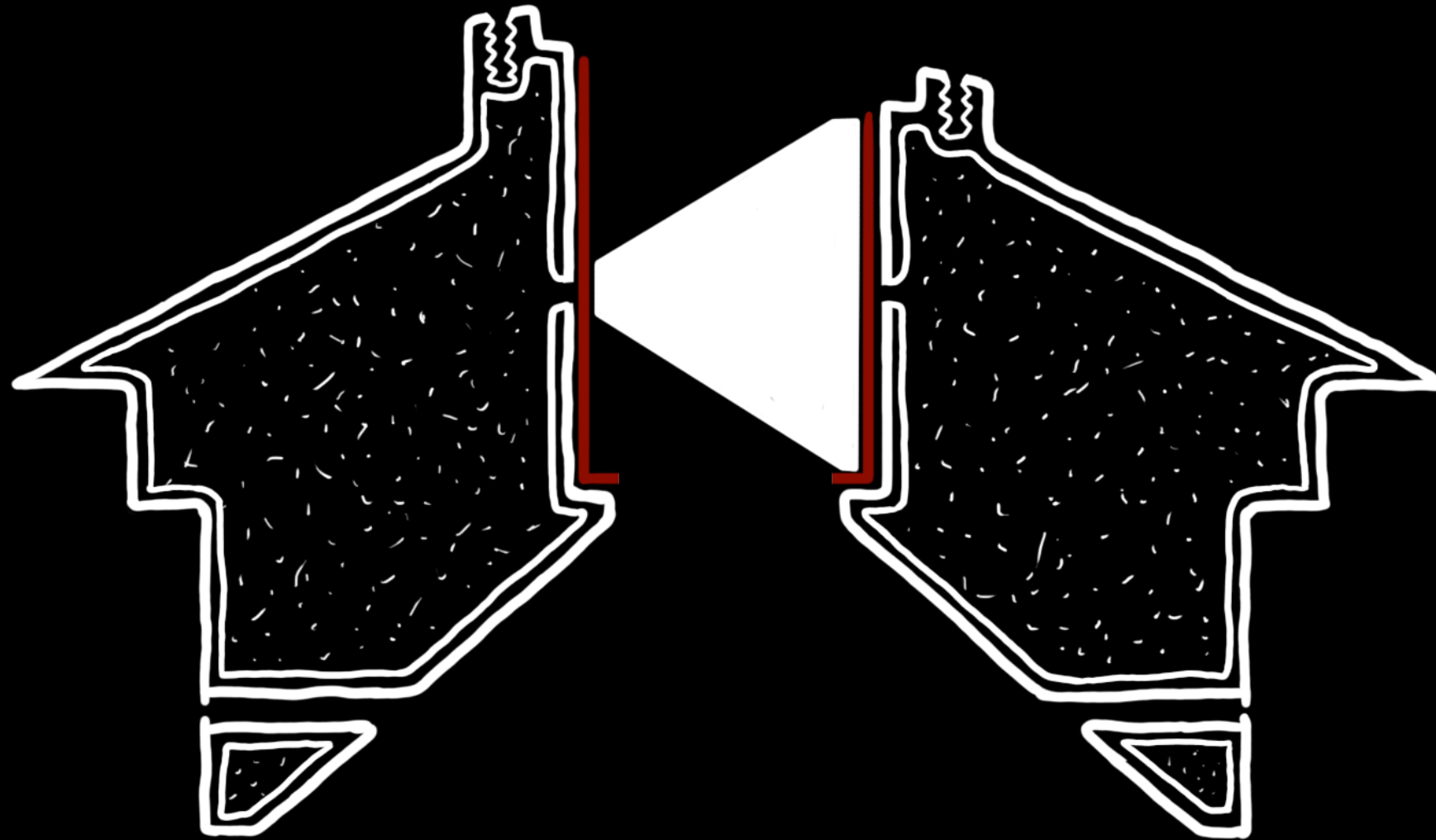
entree hal

PREFAB ASSEMBLY



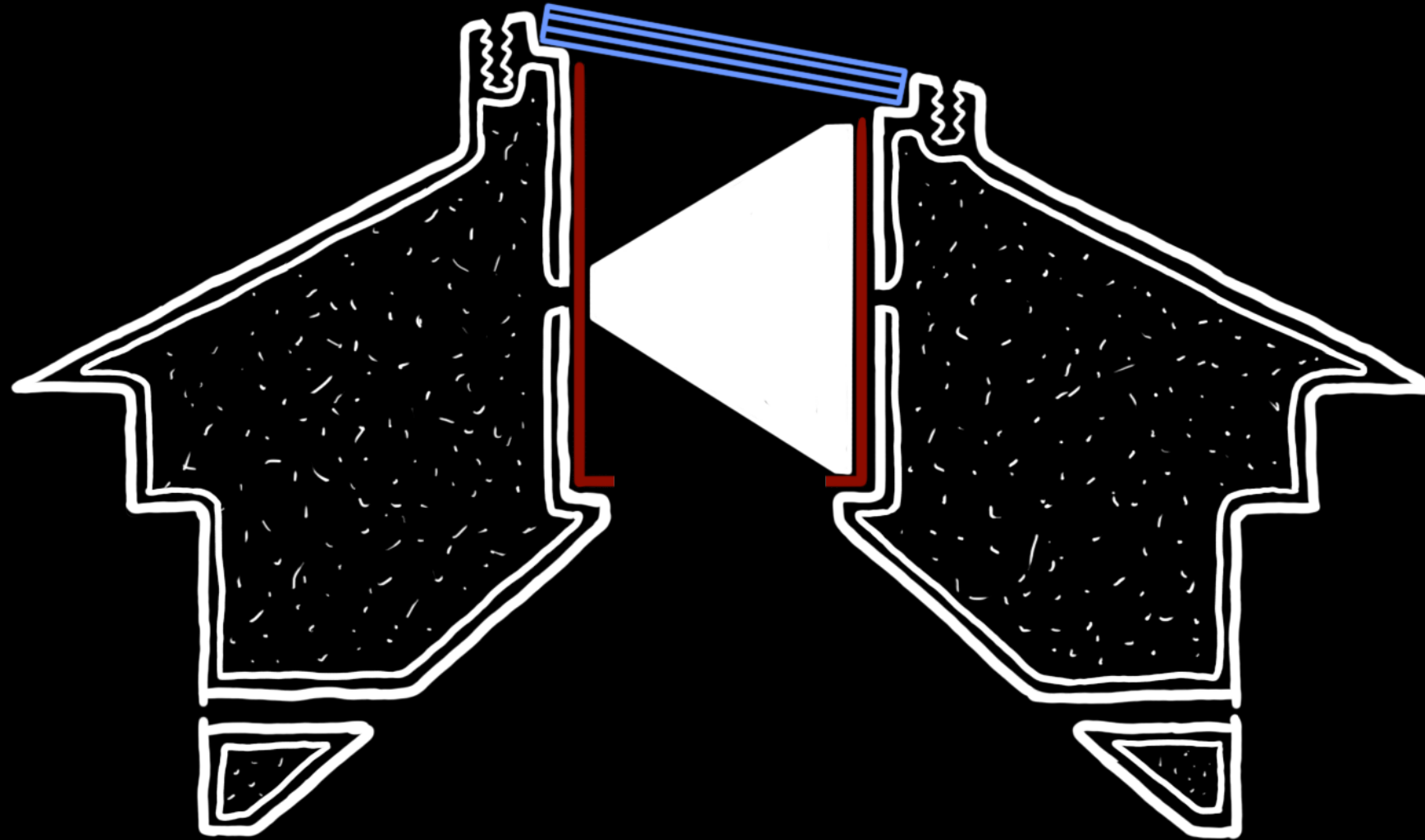
entree hal

PREFAB ASSEMBLY



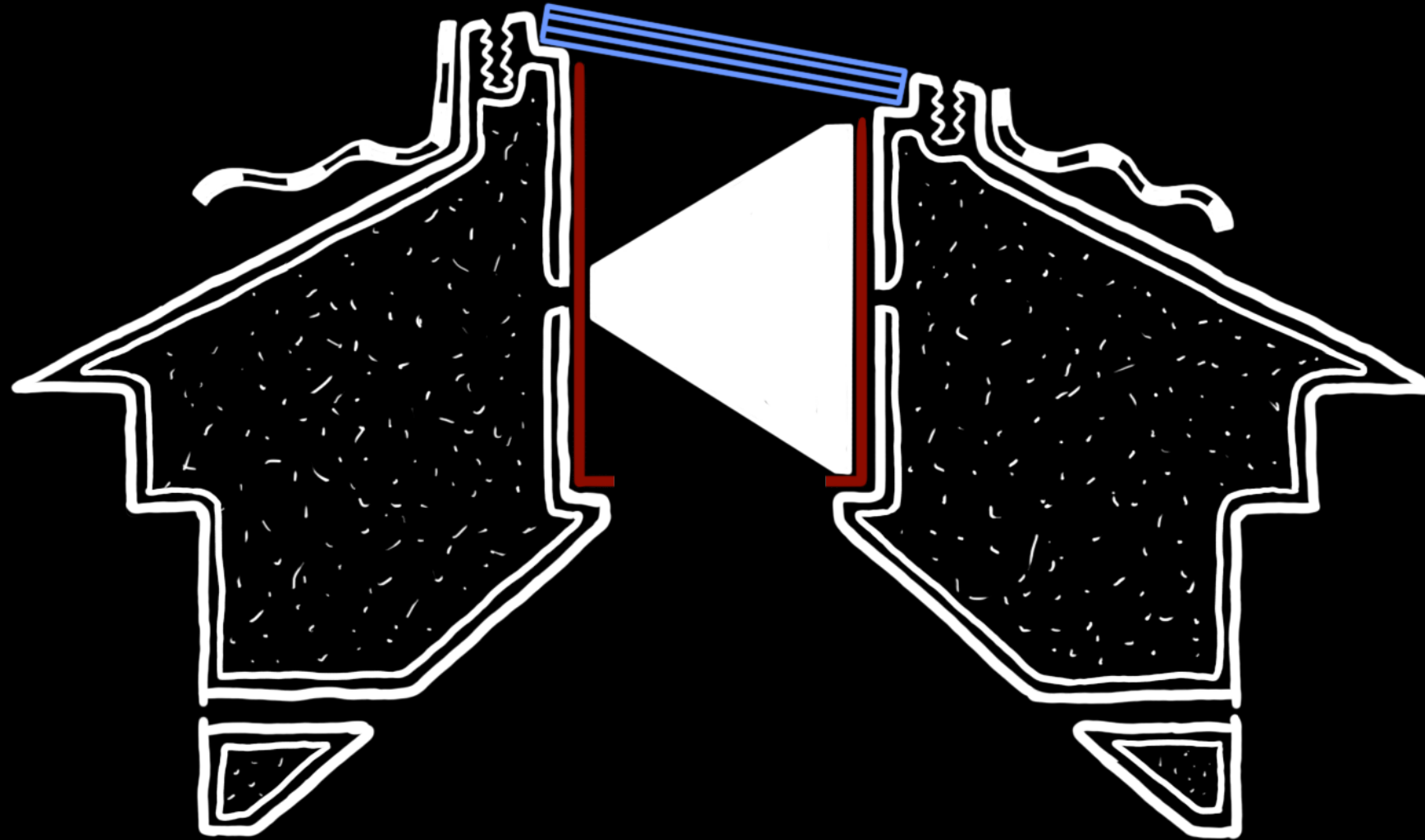
entree hal

PREFAB ASSEMBLY



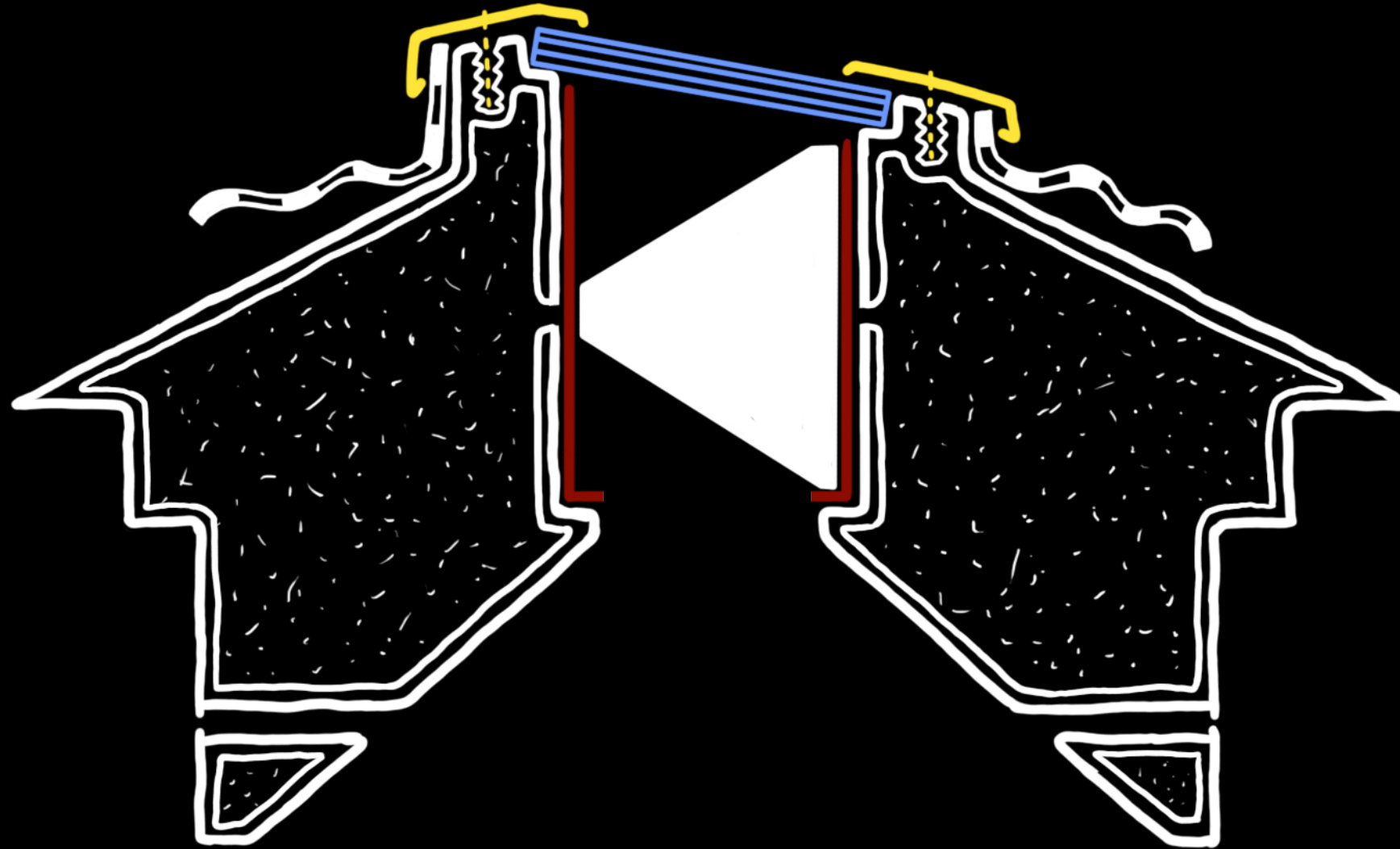
entree hal

PREFAB ASSEMBLY

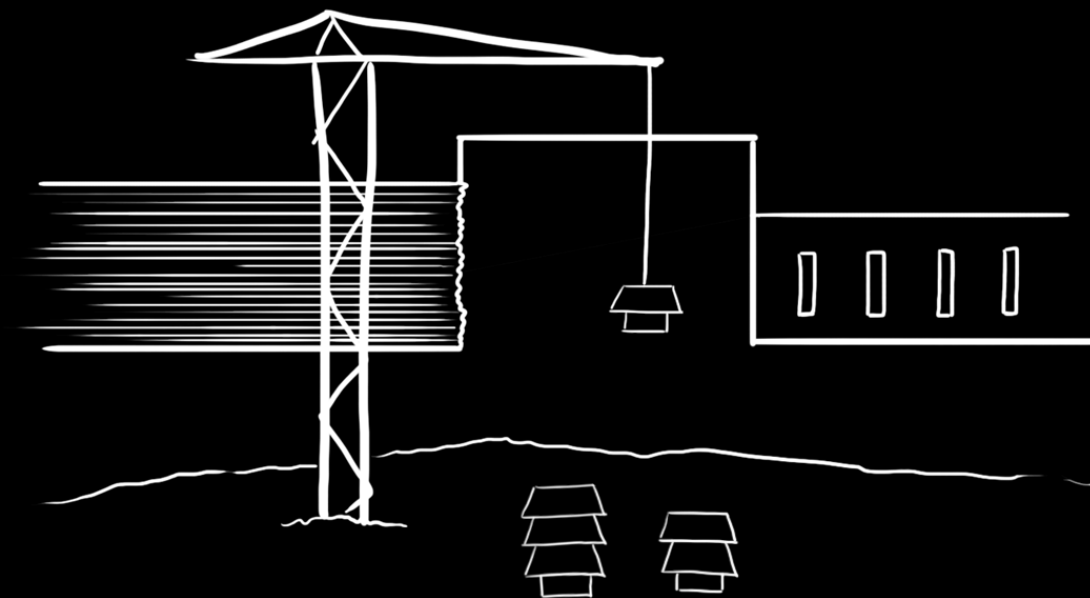


entree hal

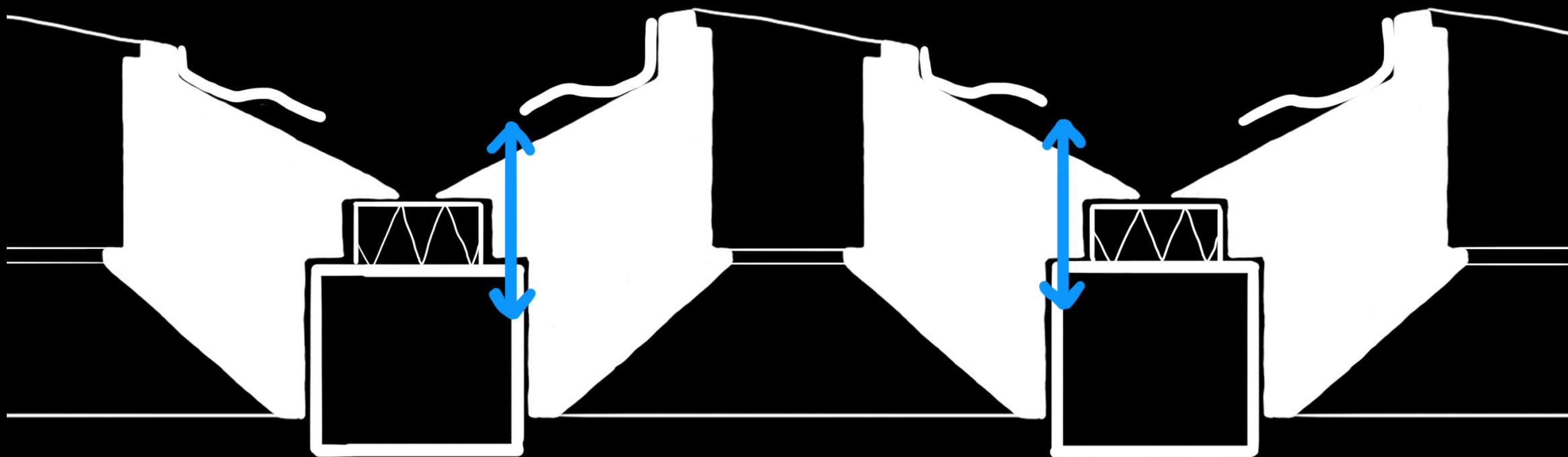
PREFAB ASSEMBLY



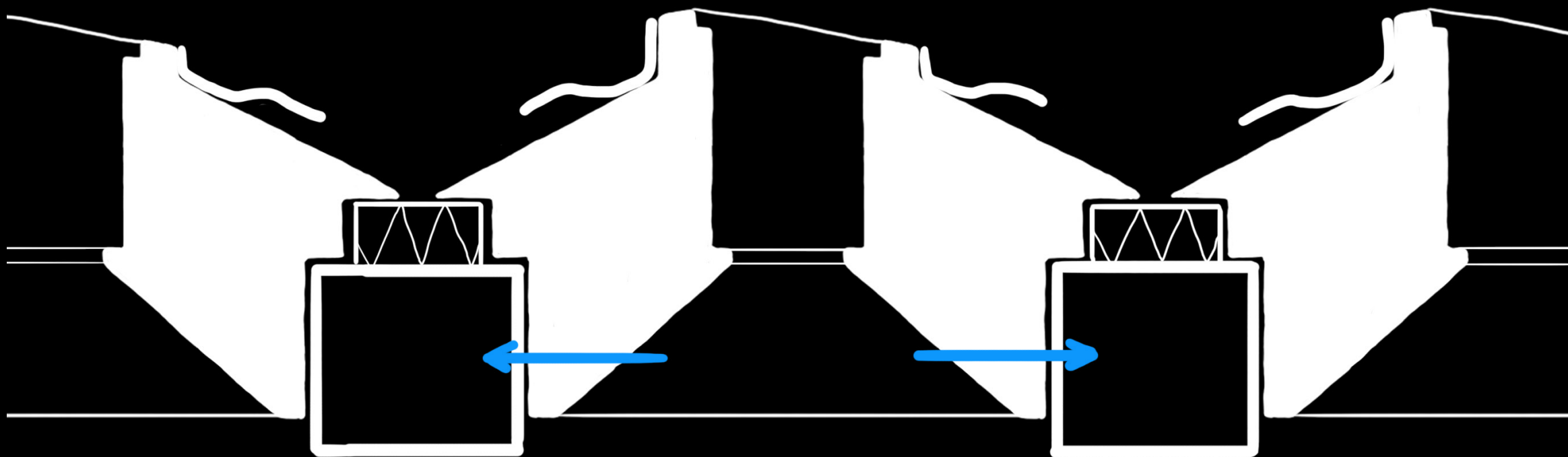
entree hal
CONSTRUCTIE DAK



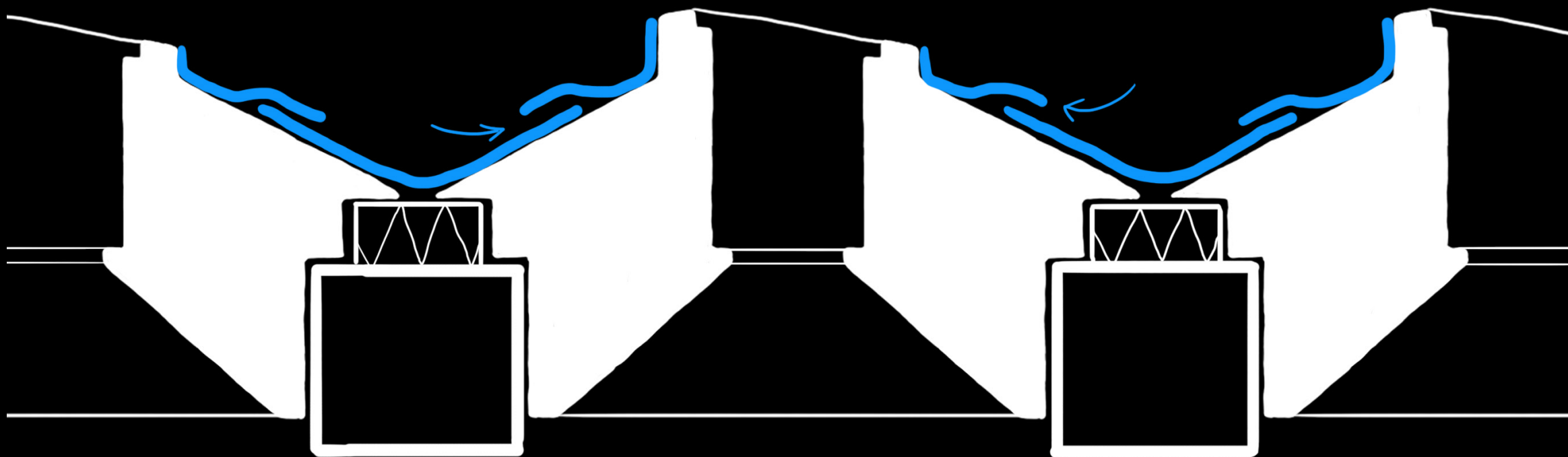
entree hal
CONSTRUCTIE DAK



entree hal
CONSTRUCTIE DAK



entree hal
CONSTRUCTIE DAK



X

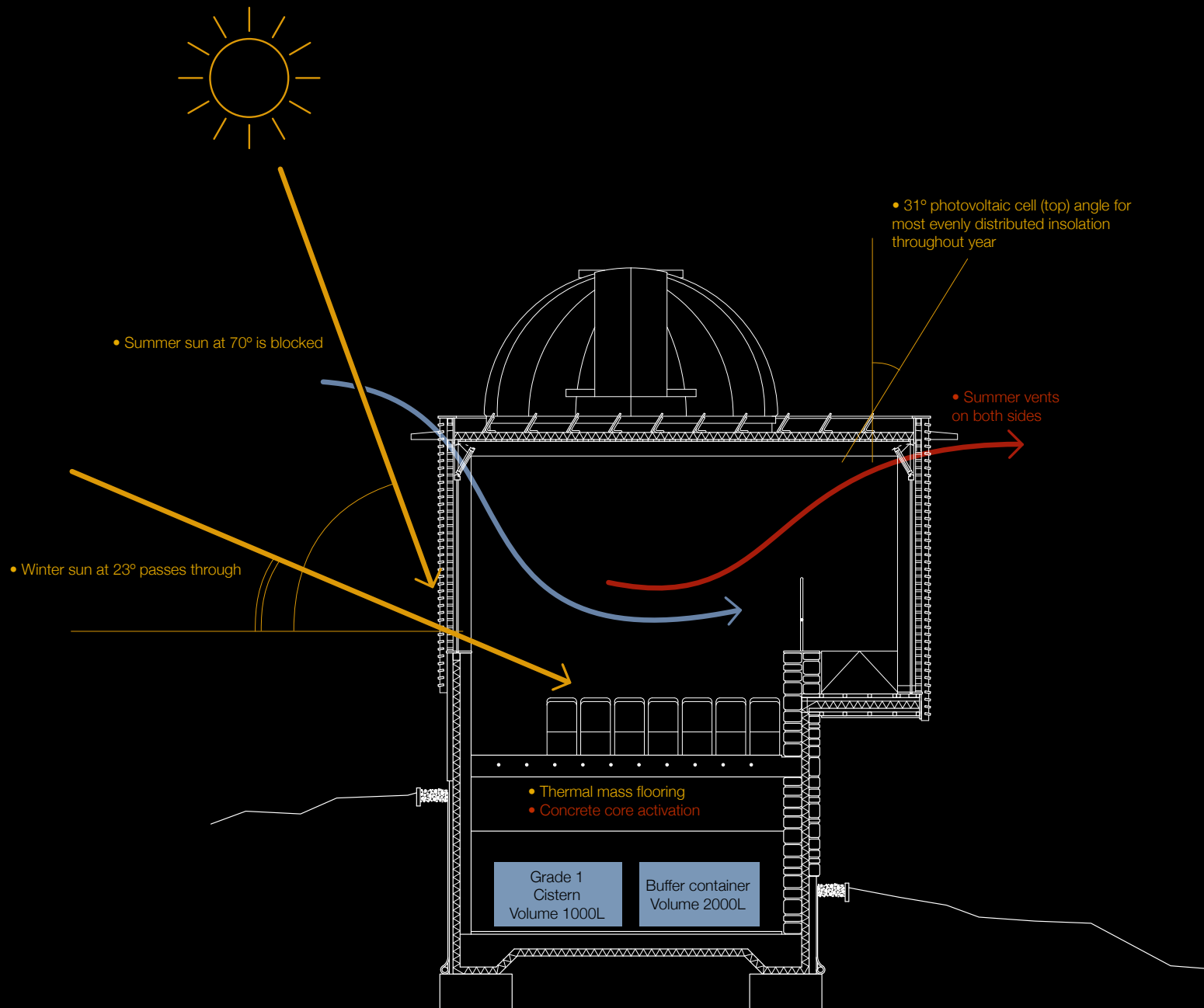
deel 5

**EERLIJK EN
BEGRIJPELIJK
ONTWERP**

ongecompliceerd gebouw – ongecompliceerd klimaat
vermijden technische addities
minder techniek – langere levensduur



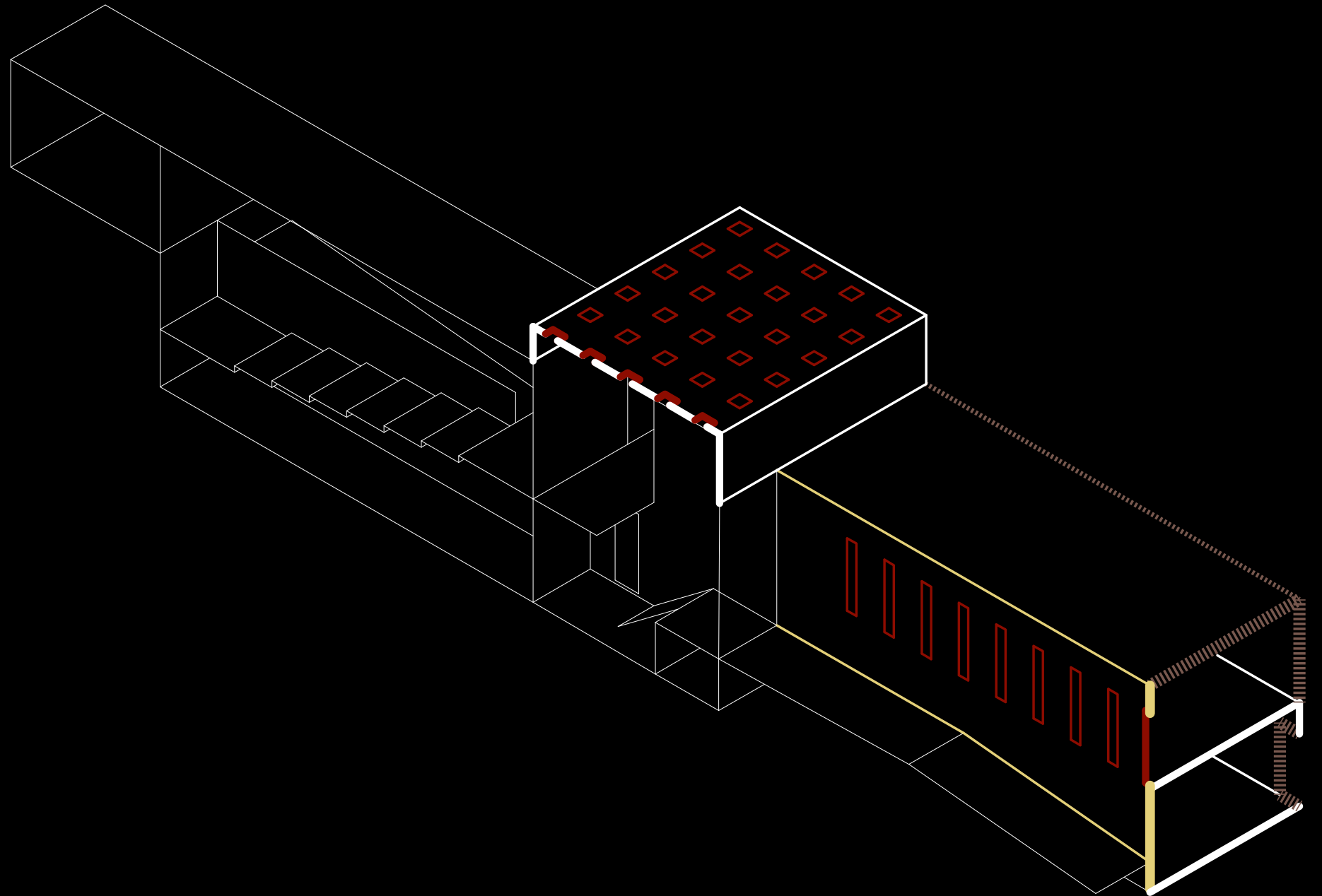
eerlijk en begrijpelijk
INGREPEN KLIMAAT



louvres voor winterzon
zomer verluchting
thermische massa vloer
betonkernactivering
lokale verwarming in tafel

eerlijk en begrijpelijk
DETAILLERING

vijf materialen
hemels ontmoet aards
kalksteen
beton
hout
staal
koper



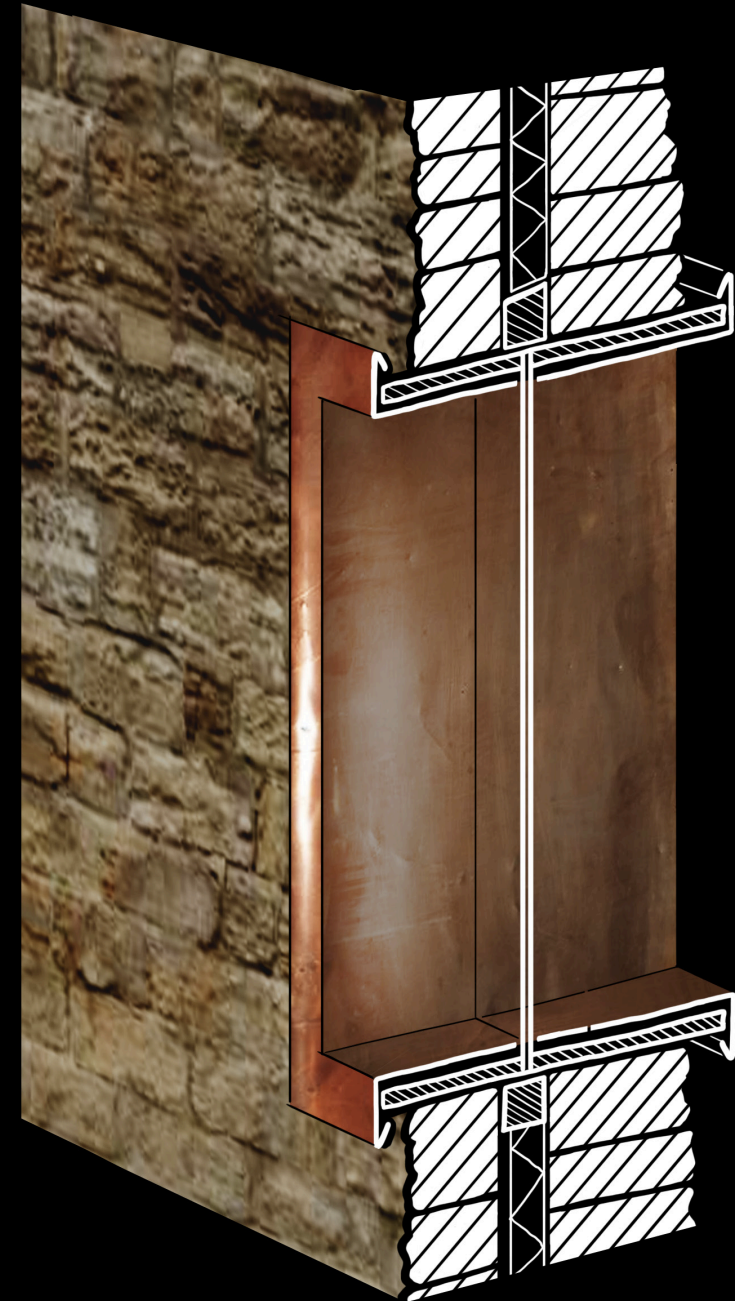
eerlijk en begrijpelijk

ONTMOETING VAN MATERIALEN

nadruk perforatie middenmuur

kader

begrijpelijk





context

KRITISCH

REGIONALISME

context
KRITISCH REGIONALISME

universeel – lokaal
modernistisch
materiaal

X

context
MODERNISME

locatie: natuur – architectuur

langgerekte plattegrond

constructief begrijpelijk.

X

context
MATERIALITEIT

materiaal als symbool

eerlijkheid van natuurlijke materialen

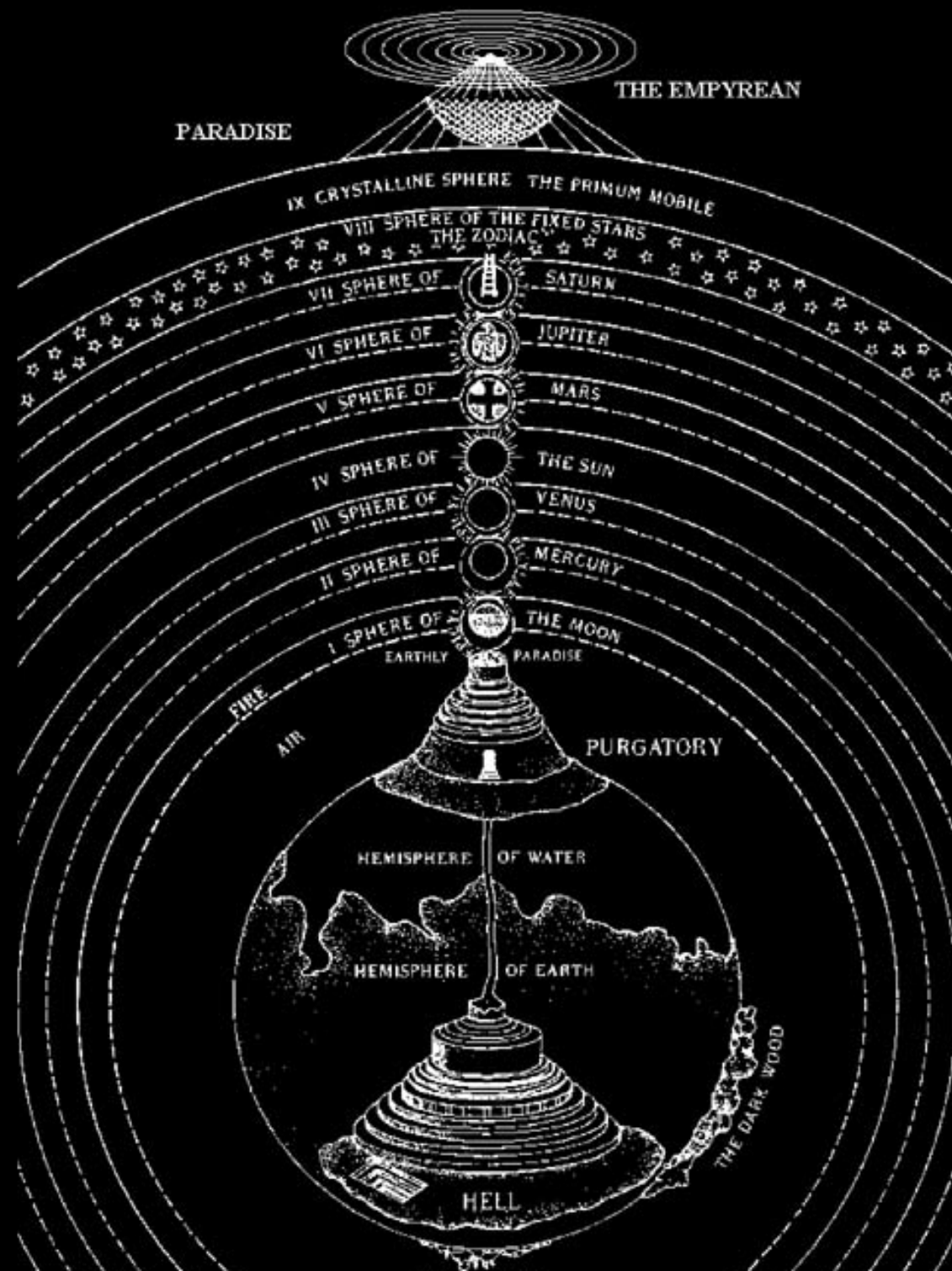
rust – uitdaging

X

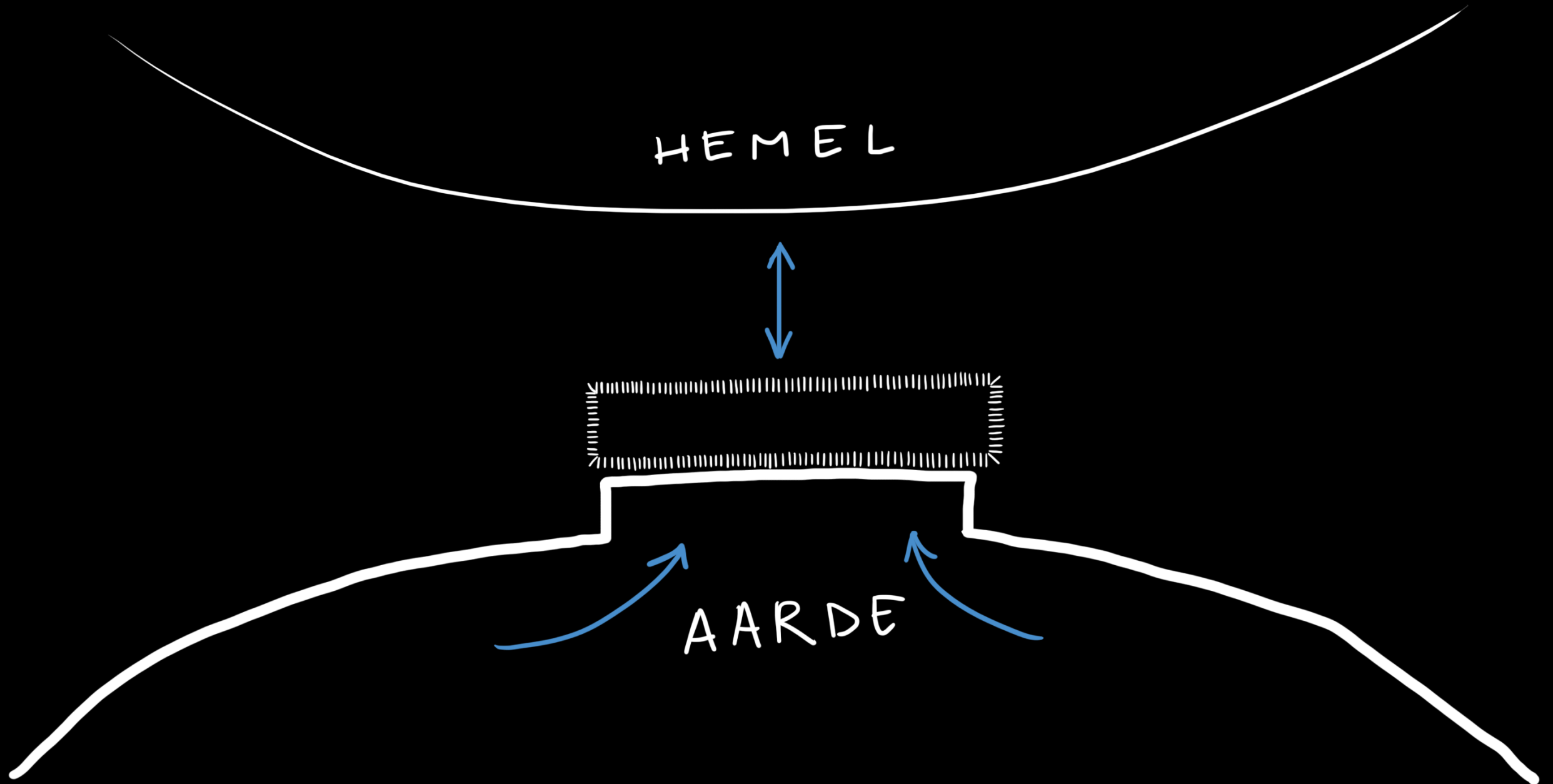
X

dualisme

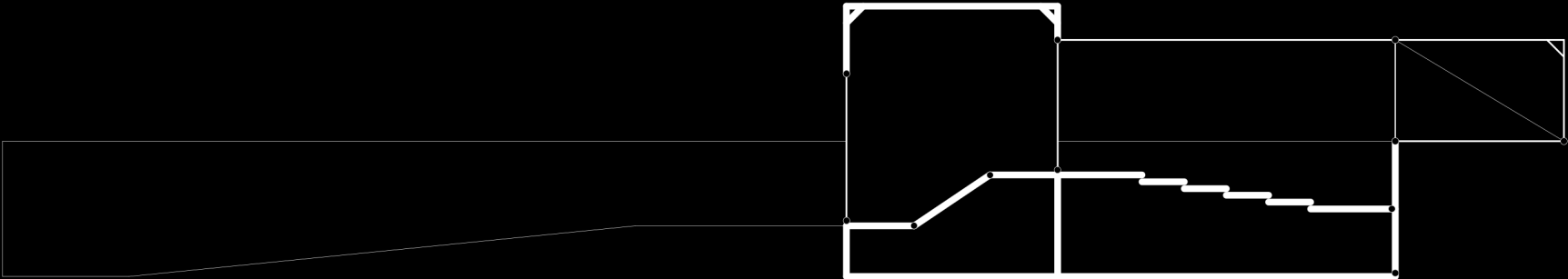
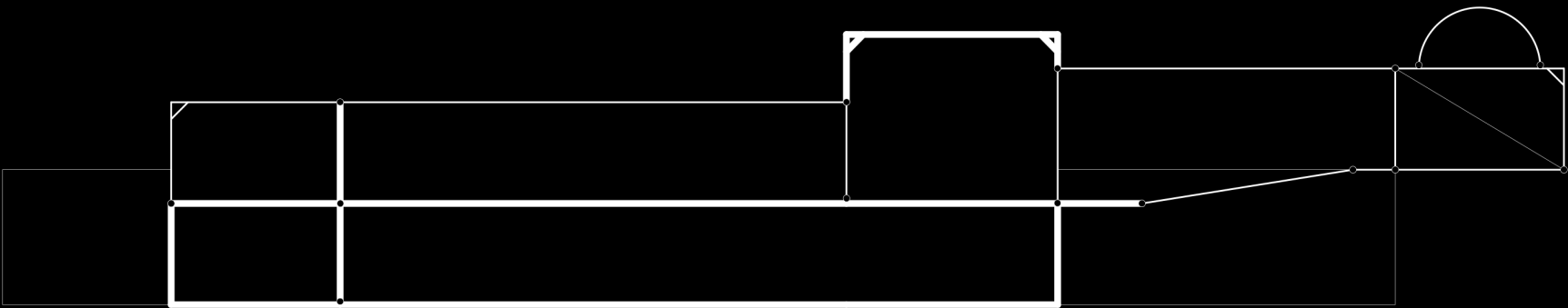
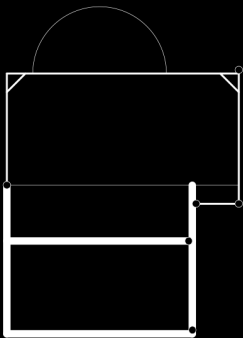
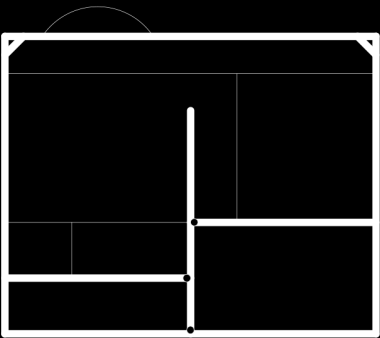
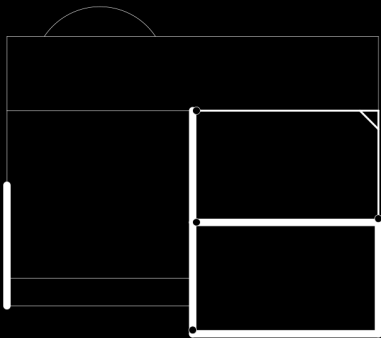
KOSMOLOGISCH MODEL DANTE



dualisme
KOSMOLOGISCH MODEL

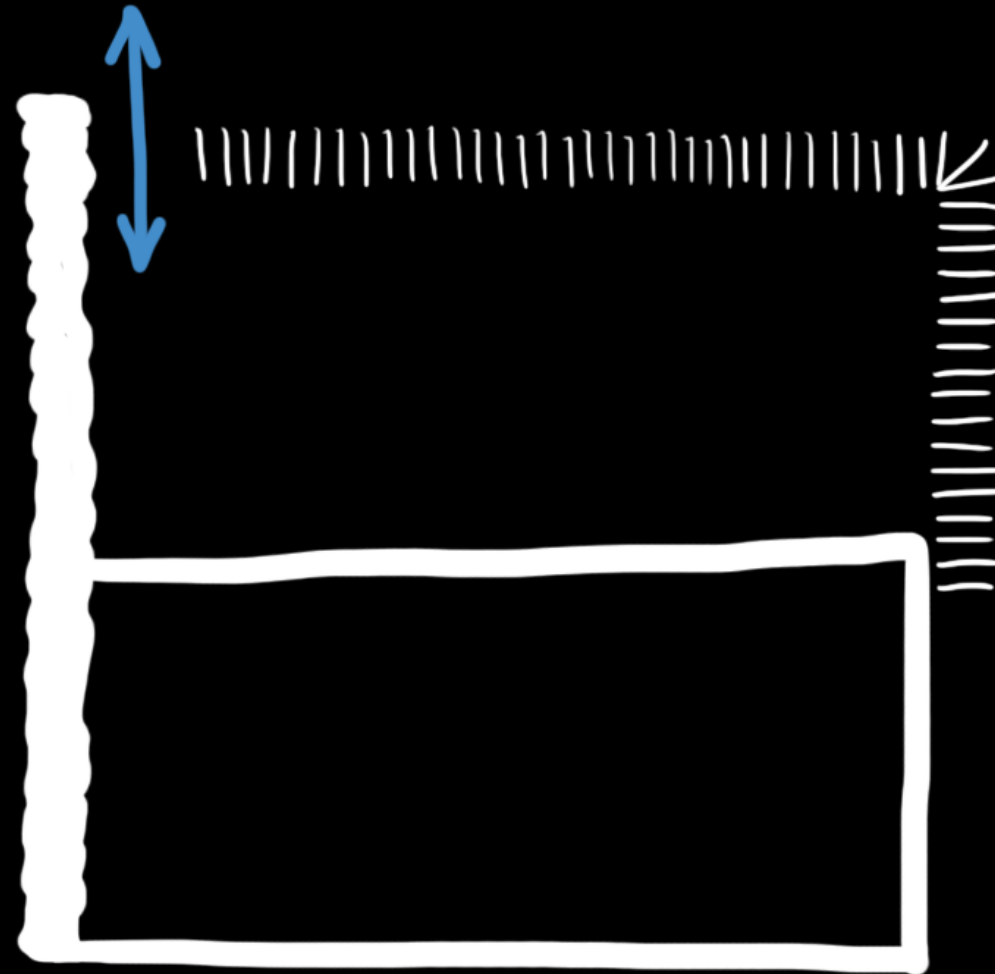


STATISCHE SCHEMA'S



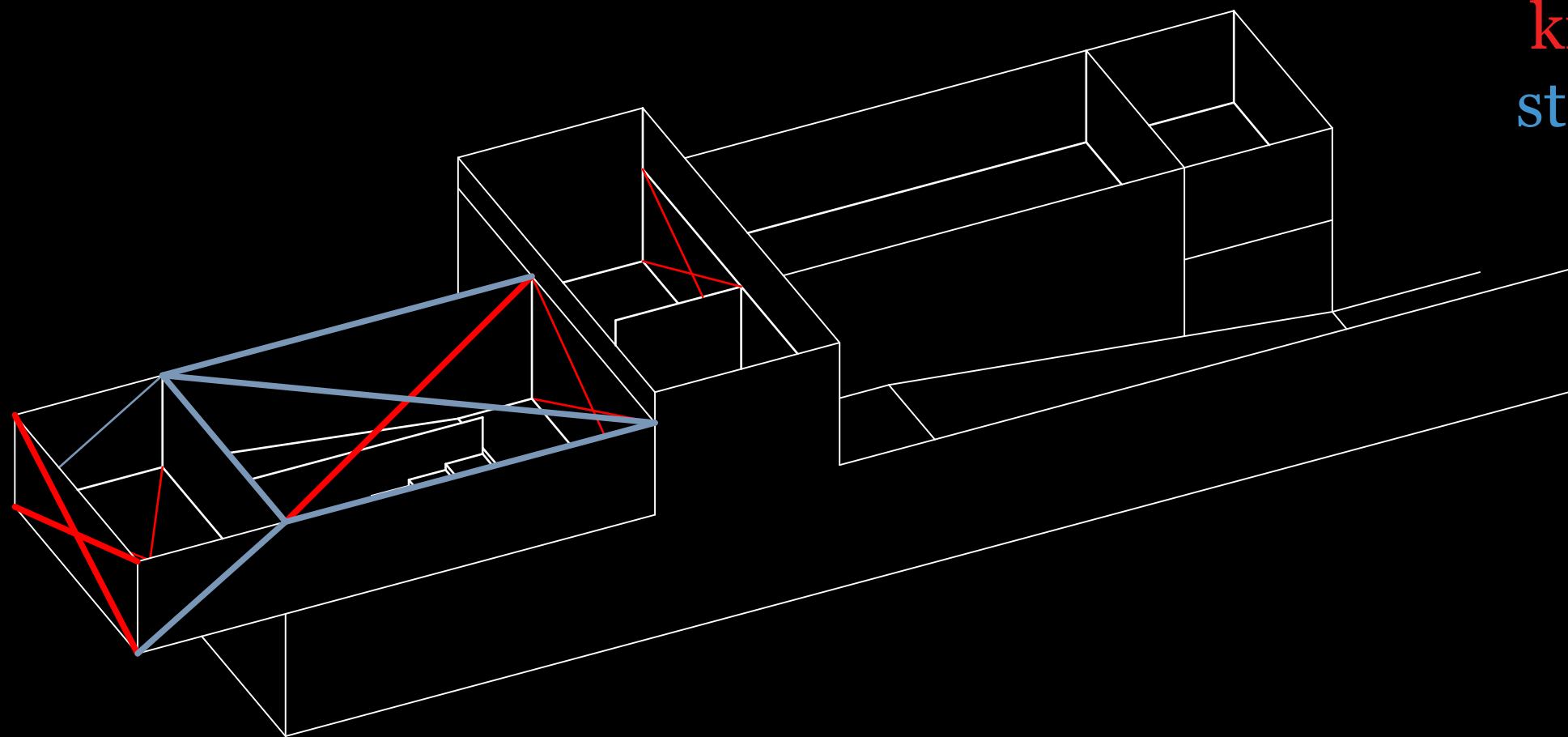
doorwerking schema

ONTMOETING MIDDENMUUR



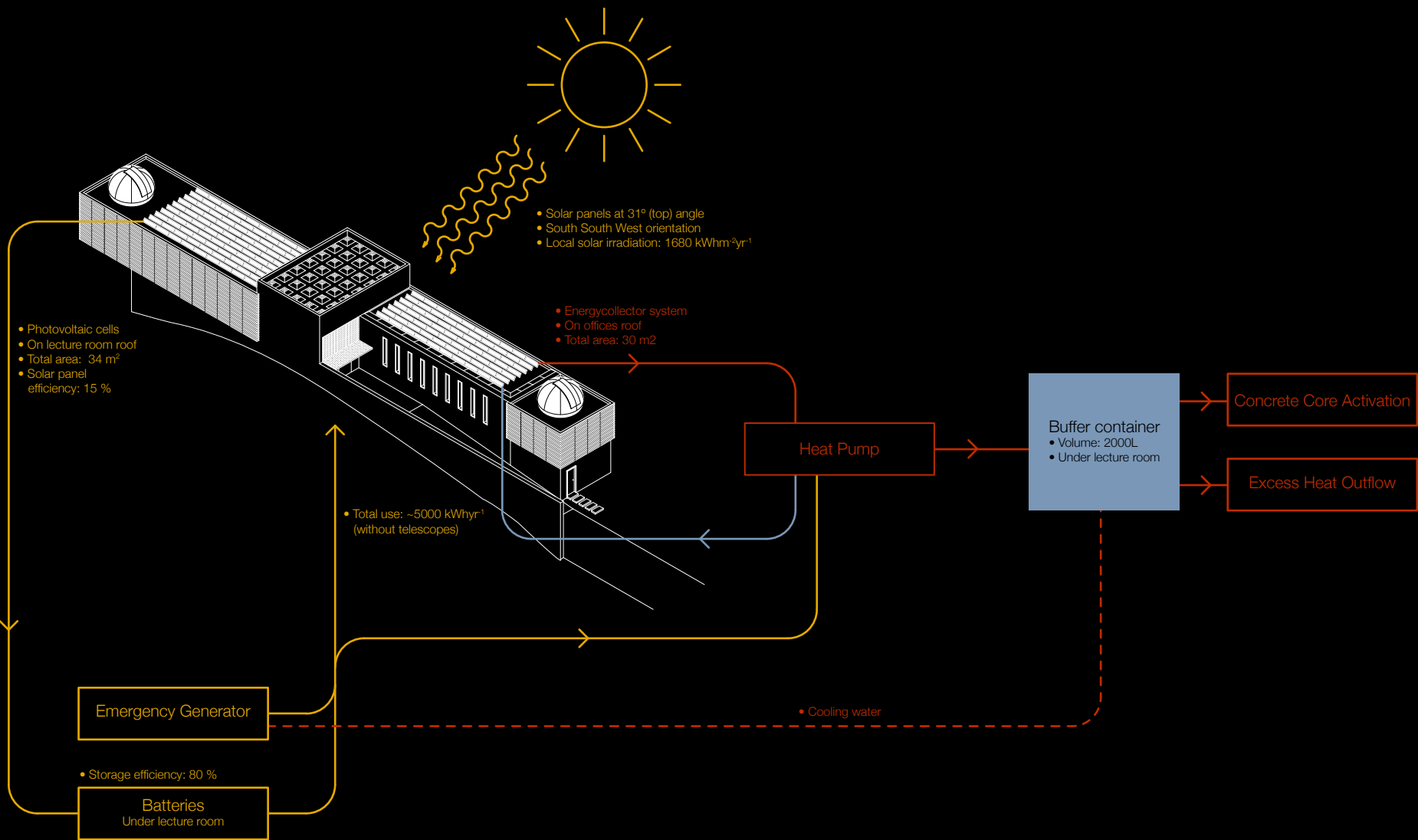
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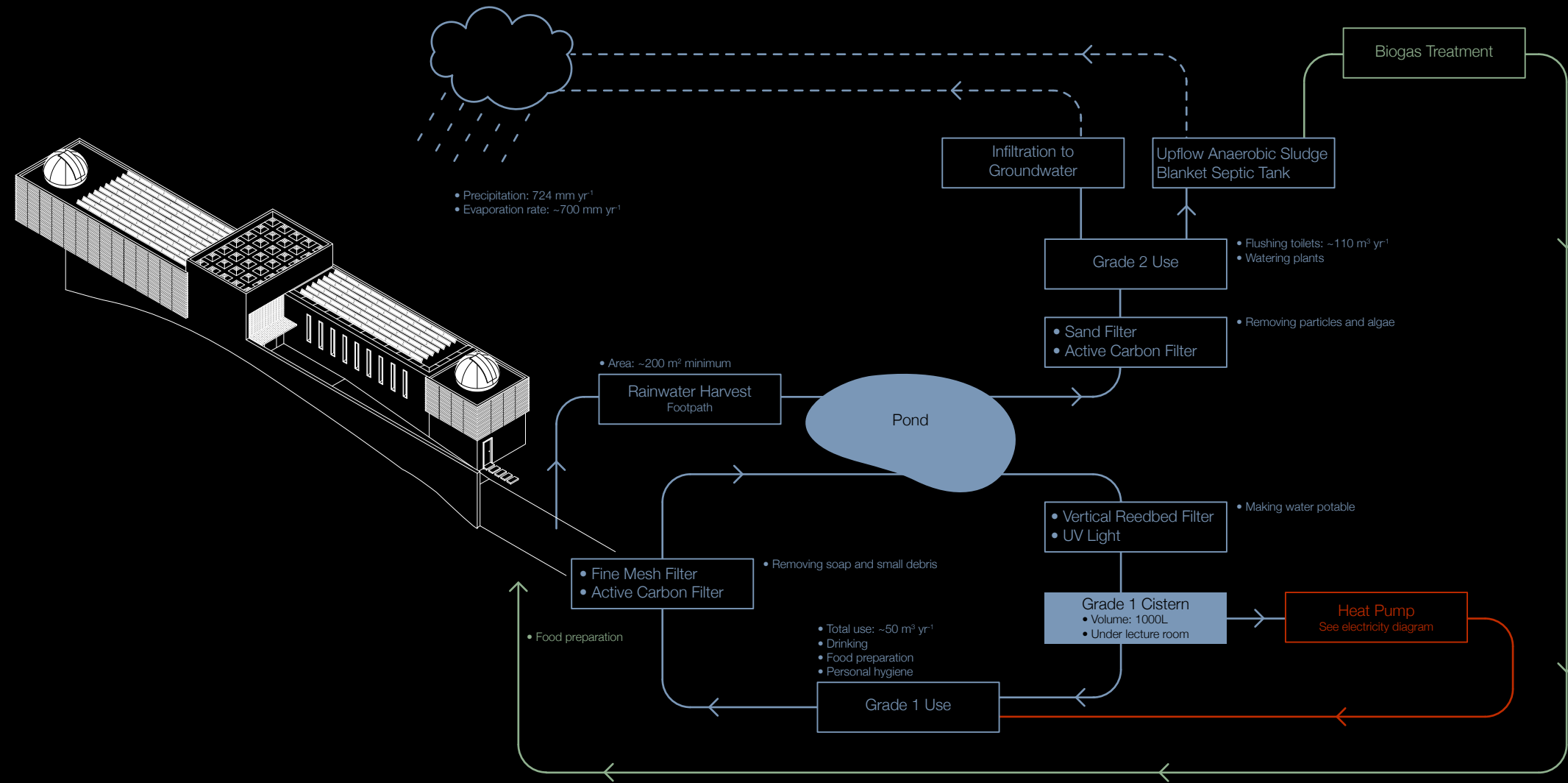


kruis voor stabiliteit
staal voor uitkraging

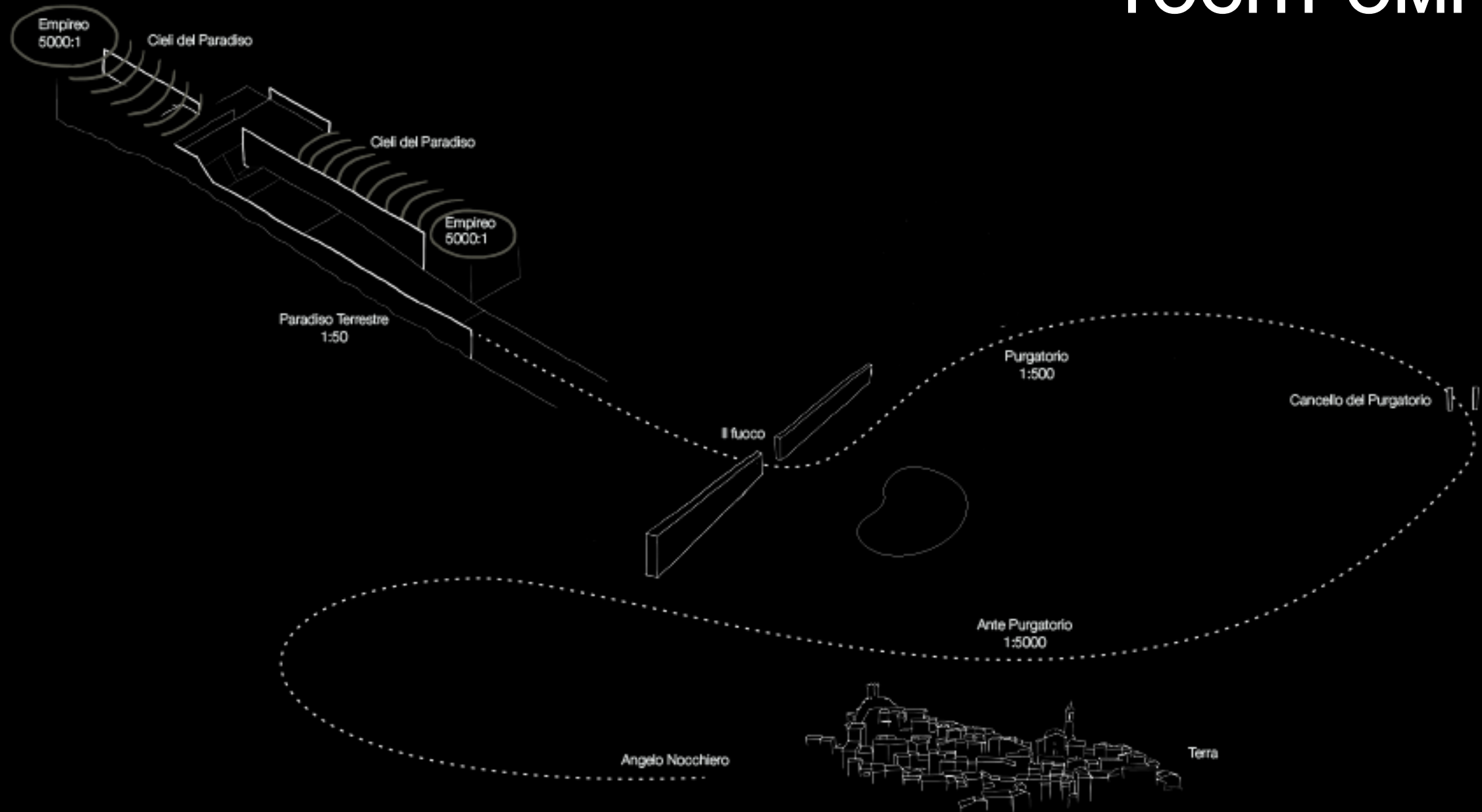
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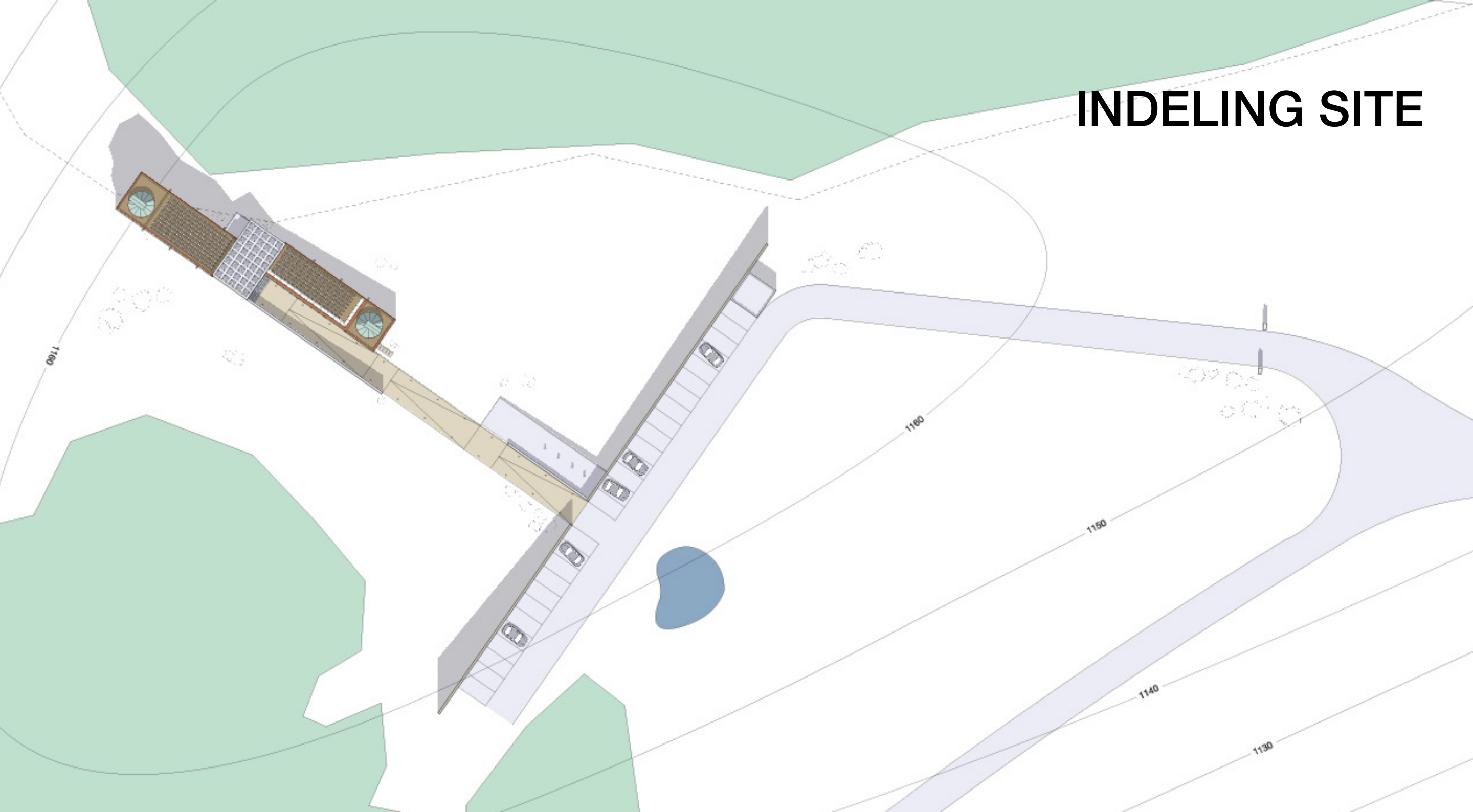
WATER



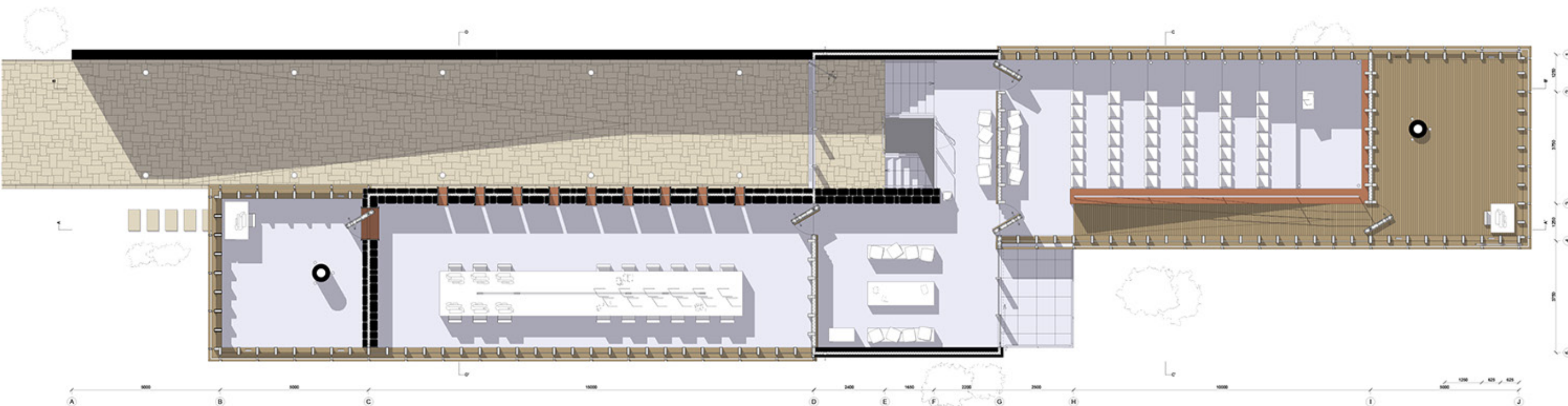
TOCHT OMHOOG



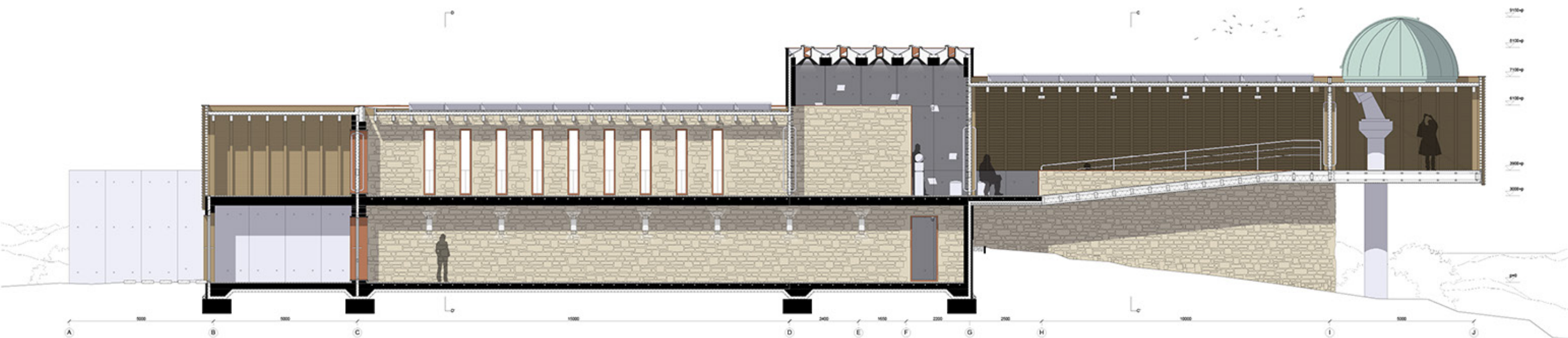
INDELING SITE



PLATTEGROND



LANGSDOORSNEDE



DWARSDOORSNEDE

