

Phase one - the proposal of a specific idea

Description:

In the following booklet I have organized my initial investigations into the reference projects that was chosen in the pre-diploma semester.

A proposal is made based on a set of rules on how to work.

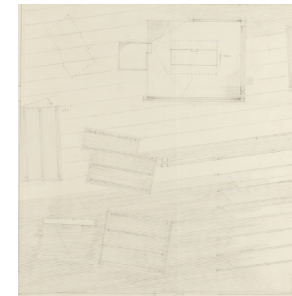
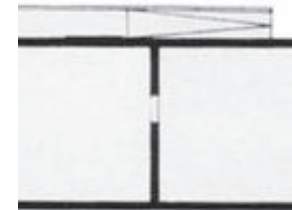
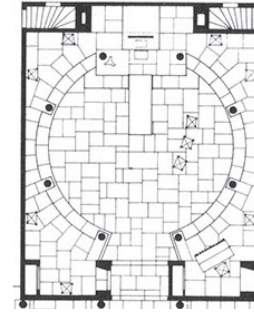
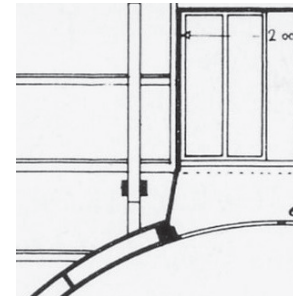
The rules are based on an interest which is personal.

The interest is based on three recurrent projects.

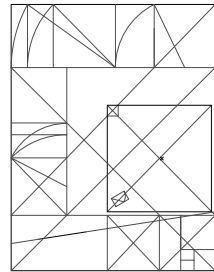
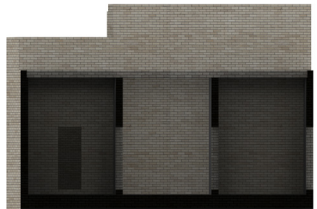
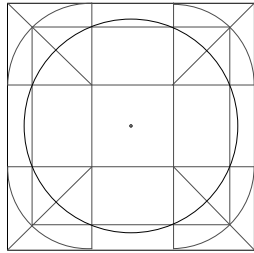
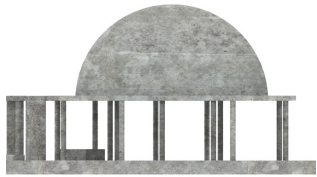
In this study, three projects which are recurrent when I think about architecture are categorized, analyzed, interpreted, shuffled and made in to new form. To be specific about what is studied, themes are made in each project regarding spatial structure, composition and material.

The themes are shuffled to create new combinations, to avoid copying the unified character of one project. A series of drawings and model studies are made to manifest the analysis into new form. These studies are also described in words in order to be precise about what has been done and what one understands from them.

The aim of this study is to find a way to work with references, being as concrete and categorical as possible, in order to make discoveries on space that are not initially graspable by looking at projects as a whole.



Spatial structure, composition, material



Content:

Spatial structure

- Adding
- Framing
- Subtracting

Composition

- Central Point
- Line
- Field

Material

- Concrete
- Brick
- Wood

Studies of configurations

Model photo and description

Conclusion and further development

Spatial structure

How is space built up? What is the initial thought, and what does one start with? These questions are the basis for my study on what I have called “spatial structure”.

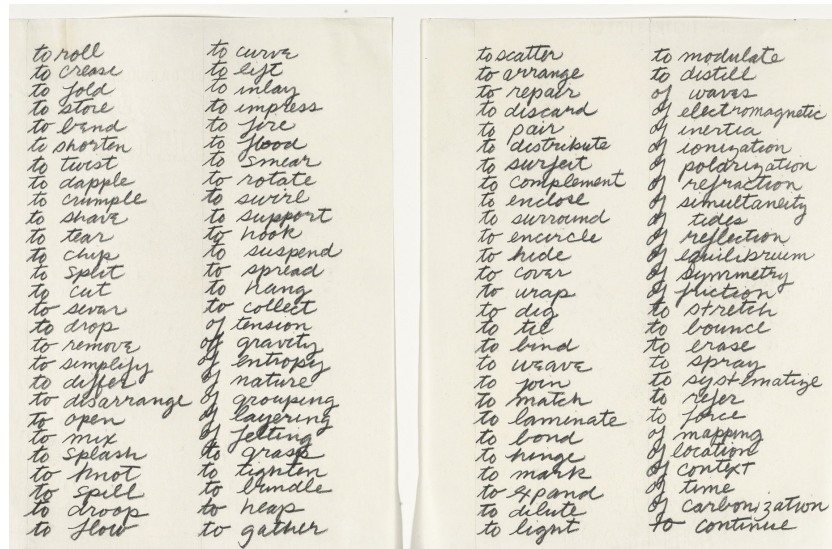
These three projects could be said to represent three fundamental ways of making space: Adding, subtracting, framing. Starting with a void, and putting together elements to make space, is one: *Adding*

Starting with a solid, and removing mass to make space, is another: *Subtracting*

Starting with an idea of separation, and building up this line of division to make space is a third: *Framing*

Of course, these projects can be read in multiple ways regarding their spatial structure, but to differentiate them, these are the categories which has been chosen.

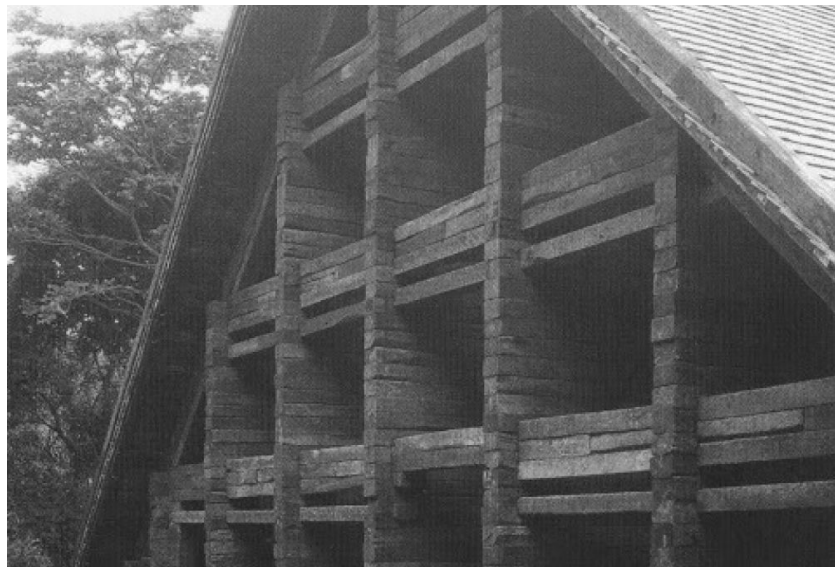
These categories does not cover all forms of spatial structures, and the interpretation of each project into a category is highly subjective, as it presupposes an idea of how space is thought and made from a conceptual point of view. Therefore, it is important to stress that these interpretations come from a personal understanding of the three projects, and does not represent indisputable facts.



Richard Serra, *Verb list*

Adding

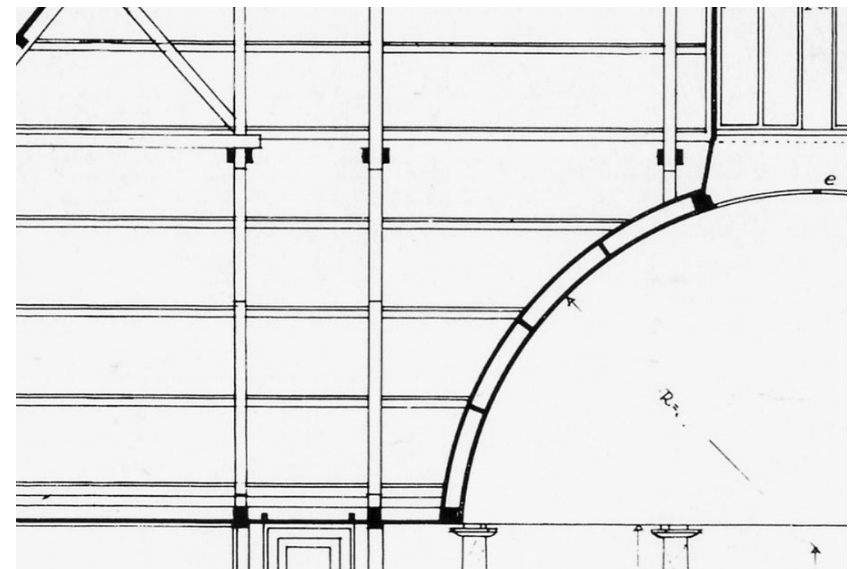
To work additive with a mass is to have components which are added to each other to make space.



Shin Takasuga, *Railway sleeper house*

In Woodland chapel, the construction is stacked and spatial elements are added to each other: The roof is stacked on wooden columns and the perimeter wall, the same applies to the dome ceiling. The roof is a timber frame construction, where layers of wood are added to create the overall volume. In plan, the main space consists of a square and a circle, and it seems that the portico and the niches are added to this central space. Columns, stairs and windows are added to create the structure.

This project is also a form of framing, but..



Framing

To work with framing of a mass is to finite space by making a boarder around the space. A frame has an outside and an inside, and creates a focus to these two aspects of the structure.

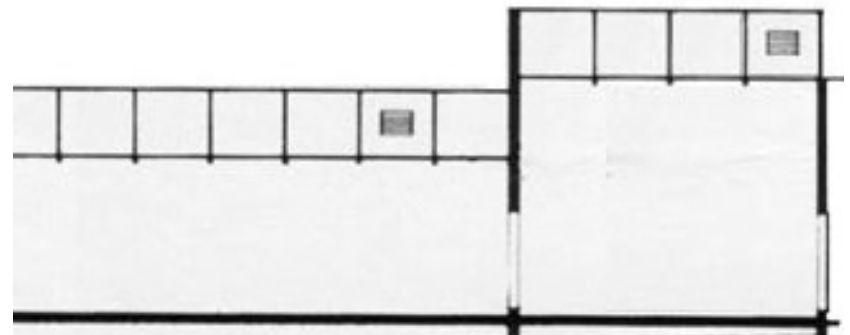
Framing can be done with addition and subtraction, but as a cathogory of spatial structure, it is my opinion that this is something in its own.



Musgum farm buts, Cameroun

In La Congiunta, each space is framed by limitations in height, with and depth. The door opening which one enters each space is raised above the floor, making the act of entering something concerning the body, as one raises one's leg. Although it is possible to perceive the other spaces through the door-openings, each space has a trait of its own, breaking the linear movement through the building. Each room is framed in a particular way, because of the ceiling height proportionally altering, changing the light and feel of the space.

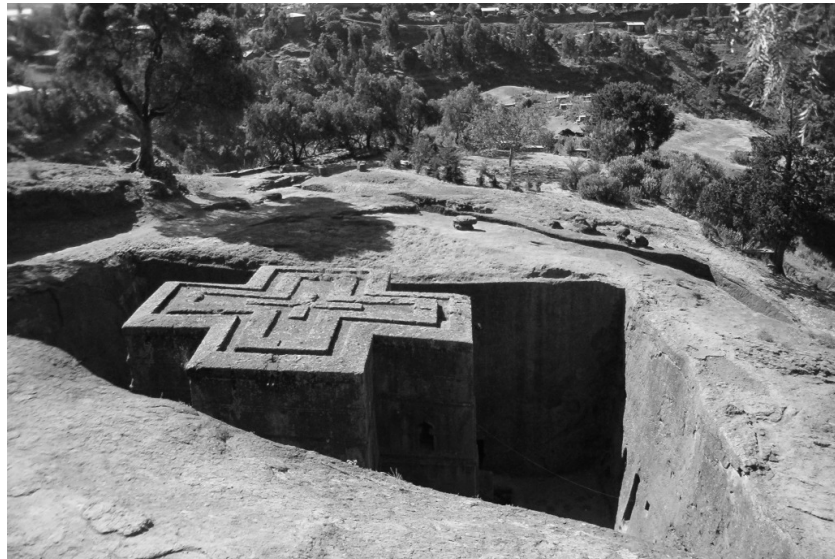
The two long spaces has the same size in plan, but differ in organization of the artwork that is exhibited. In the end of the building, there are four square spaces, each framing one artwork, with a central skylight above.



Subtracting

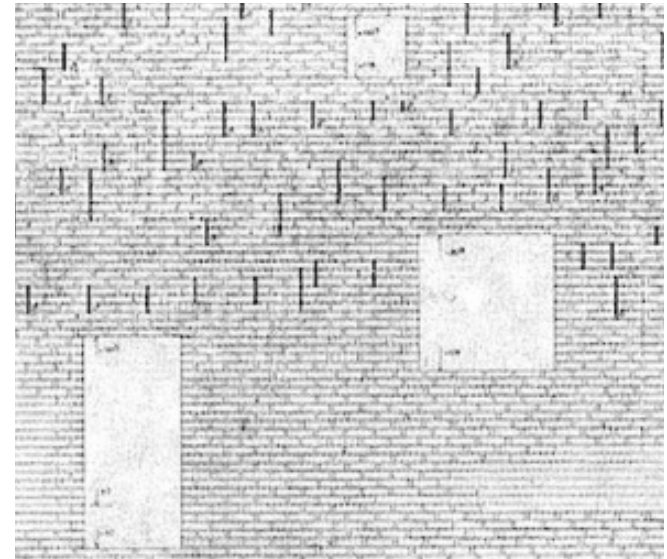
To work subtractive with mass is to have a solid and then to reduce the mass of this solid to make a space.

Space is not often completely made from carving from mass, but in some ancient buildings, stone or earth has been subtracted to make space. As a thought process, and not the physical act of subtracting, this idea of making space is more occurrent.

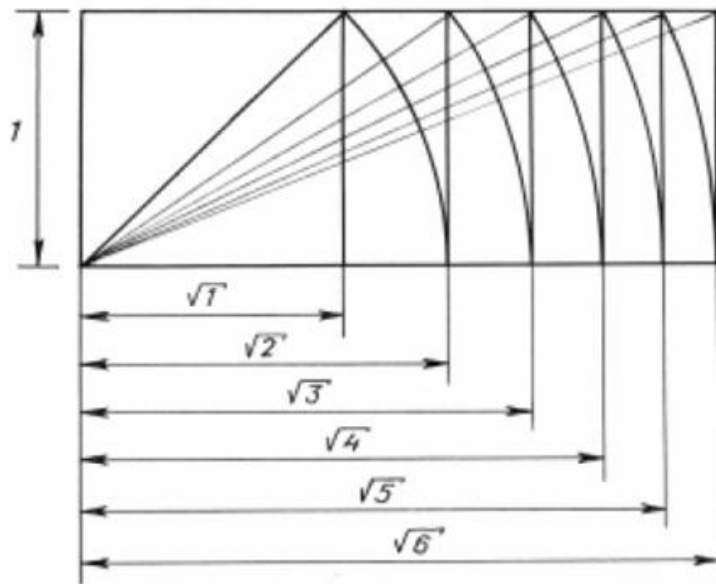


St. George church, Lalibela, Ethiopia

In Klippan, the space is made from two volumes, one rectangular shape and one L-shape. Even though this brick building can be said to be an additive construction, the openings in walls, spaces and niches, seems subtracted from a solid. The scarce amount of light gives the feeling that openings are created by carving out holes, rather than walls added to reduce the amount of light. The floor of the main church room is irregular sloped, like it has been carved, with angles which are not optimal for the additive process of bricklaying. The thickness of the perimeter walls, and the angeling of some walls, increasing/decreasing in size, gives the impression of mass that has been reduced from a solid to create space.



Composition



The composition of a project differs from the spatial structure in the sense that it is describing how space and form is organized. This implies the placement of walls, roofs and other elements, and in what relation they stand, rather than how mass is thought and built up.

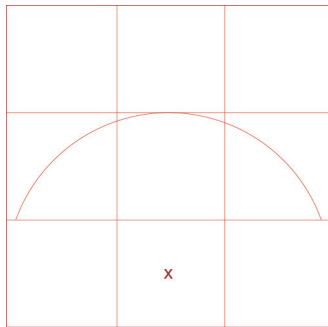
These projects does not obey to one single way of composition. For instance, Woodland chapel has elements of a linear composition, as the portico, door and entrance to the area marks a clear line. The main church space of Klippan has elements of a central composition, with the column in the middle and diagonal lines of organization.

When deciding how to name each cathogory of composition, finding the most important organizing character of each design has been a motive. Also, differentiating each one from the other has been a goal, to have three principally different cathogories.

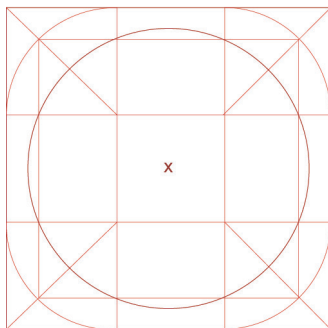
Linearity, centrality and field-composition is three principally different ways of organizing mass and space. In the three selected projects, it is my conjunction that gemoetric propotion has been a deciding factor in terms of their organization.

Central point

A central point composition is an organization which revolves around one point (x).

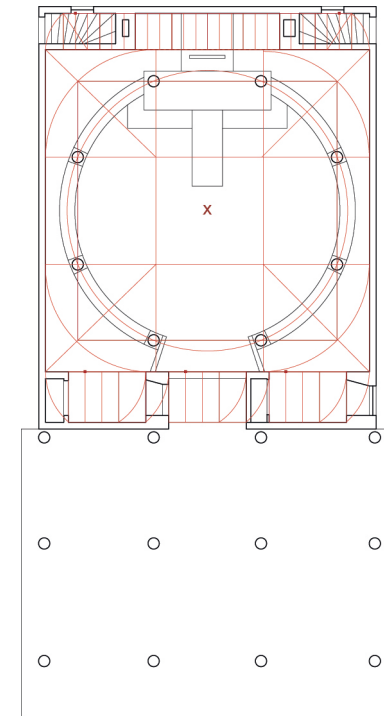


Section



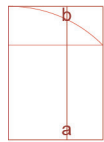
Plan

In Woodland chapel the main inner space is organized around a central point, in the middle under the dome. If one divides this space into three, the columns which support the dome coincide with this division, and an arch line from the intersecting point of the lines made by division of thirds, create a radius which marks the central point of the columns. The skylight is placed centrally at the top of the dome, emphasizing the middle of the space.

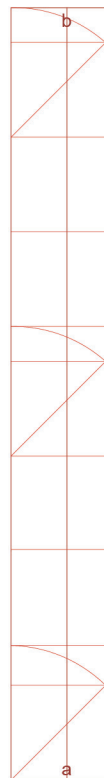


Line

A line is a continuous extent of length between two points (a, b)

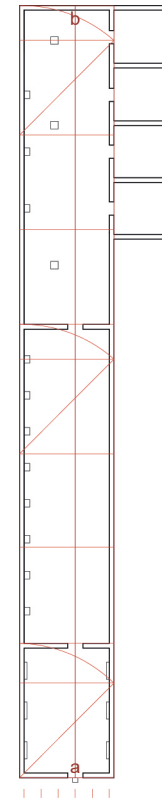


Section



Plan

In La Congiunta, space is organized along a line from the entrance to the end wall of the building. This line is not placed in the middle of the volume, but on the fourth axis from the left, if the volume is divided into six in width. This width (4,5 meters) marks the dimension which is used as a basis for proportioning the over all volume in plan and section. The first room is in proportion of the $\sqrt{2}$ dynamic rectangle, where the length is equal to the width + $\sqrt{2}$ of the width. The square and the $\sqrt{2}$ dynamic rectangle are the elements that constitute to build up the main volume of the space.

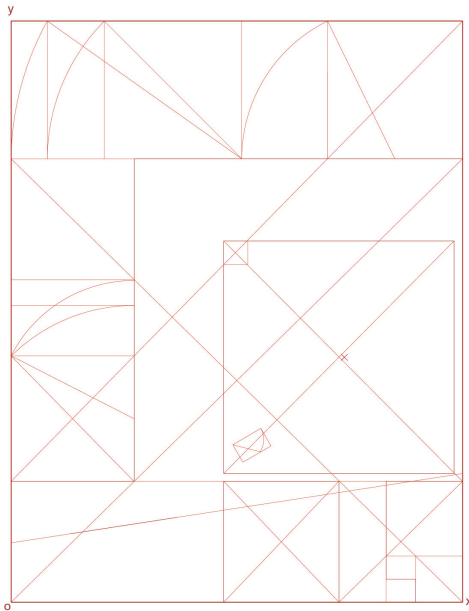


Field

A field is the operation between two lines in different directions (x,y)

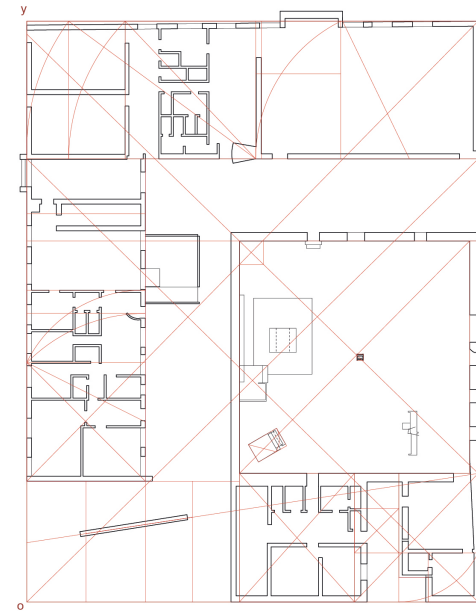


Section



Plan

In Klippan, the composition could be understood as a synthesis of lines, central points and proportions, with no single place or aspect being the most important one. Mainly, everything is geometrically proportioned, but subdivision, spatial proportions and axes are not relating to one principal rule. The result is a field like condition, where proportions, diagonals and dimensions overlap and correspond, but also refers to central points which are scattered and axes which are conflicting. This gives an overall sense that the project is a field consisting of compositional elements.



Material

Thinking of these three projects, each of them has a material property that is, in some way, defining the project. The act of building with a material can be something else than the logic of the spatial structure. In Klippan, this contradiction can be said to be the idea of subtracting mass as a concept of spatial structure, and the additive process of bricklaying, not cutting any brick in order to adapt to the structure.

Brick, concrete and wood has different tectonic qualities; how the material is used to make a structure, how it deals with tension / compression; and different experiential qualities; how the material is treated, how it envelopes space, its texture, acoustic qualities and reflection of light.

When deciding to name a material for each project, La Coniunta and Klippan was fairly straightforward, as the dominant material is very clear. In Woodland chapel however, the main material of the construction is wood, but it is painted / plastered, and concrete and stone are also integral parts of the experience of the structure. To make the materials from each project differ from each other, wood has been chosen, as it is the main material of the structure, and a material with tectonic qualities which are quite different from brick and concrete.

Wood

Wood is an organic material that has a finitude in terms of modular size. It has to be carved, joined and/or binned together to make a static structure.

In Woodland chapel, wood is the main material of the structure. The voluminous roof, columns and cladding is made out of wood. The painted columns give associations both to a classical stereometric language, but also the the vernacular nordic tradition of structures in wood. The ceiling is shiny, but yet one can see traces of the module of the wooden plank. It seems like great effort has been made to make this structure in wood, and simultaneously conceal some of the material properties. The result is an interesting contradiction, between a seemingly classical language and spatial structure, and a material that does not easily adapt to a uniform expression in surface.



Concrete

Concrete achieves its finitude in relation to other materials.
It is heavy and is most efficient with compression loads.

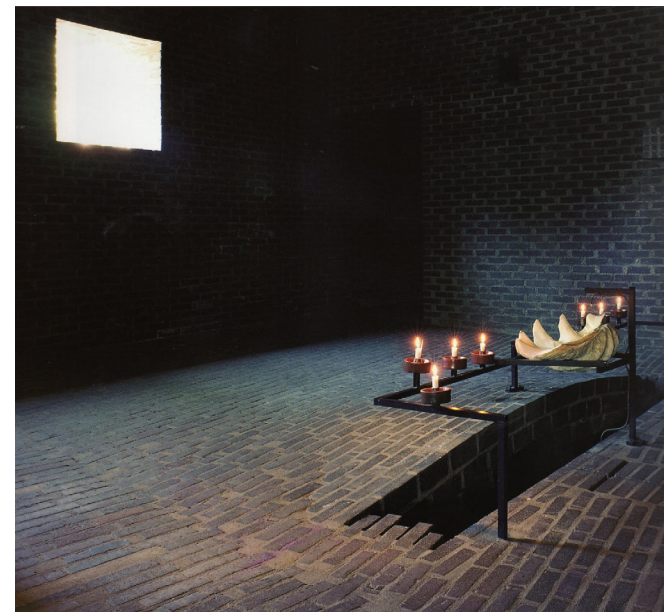
In La Congiunta, concrete envelopes space through walls and floor, straightforwardly built up with horizontal formwork. The color of the concrete is quite neutral, making shifts in light conditions more evident. The execution is somehow rough, but the placement of horizontal lines from the formwork is precise, being different outside and inside, giving the space a sense of scale in numbers. The vertical lines in the formwork shifts as one walks through the rooms, breaking the the linear direction of the volume.



Brick

Brick is a hard, finite unit, that depends on a binding material to create a solid structure.

In Klippan, brick is making the structure comprehensible, showing angles, proportions and sizes by module. Contradictory to the spatial structure of subtraction, the brick is built up additively, with no breaking of stone. This technique leaves the mortar to fill in dead angles and difficult shifts in the structure. The mortar is also flush with the stone, giving an impression of being one single surface. The brick dimensions are also in proportion, 6, 3, 2, slightly different from the standard Swedish brick. This detail is contributing to the overall feeling of coherence in the building.



Studies

The following studies are made based on terms from the analysis. These terms are interpreted into drawings and 3d-models. To avoid copying the condition of one particular project, combinations of terms that come from the same project are avoided. Still, the goal has been to keep the feel of the projects, directly using elements from them in the category 'spatial structure'.

The composition of drawings and models are based on an interpretation of the composition in the three selected projects. Asplund's chapel is interpreted to be based on a rule of thirds, Lewerentz' church is interpreted to be subdivided out of the golden section, and Märkli's gallery is interpreted to be based on proportion in numbers, in with, length and height, as described in the chapter "composition".

These proportions are interpreted and standardized in order to make an abstraction in drawing and model, escaping any reference to scale of the original composition. The material category is also standardized for each material, using the same texture for all wood-, brick- and concrete models.

Construction	Composition	Material	
Adding	Central point	Wood	(Woodland chapel)
Adding	Central point	Concrete	
Adding	Central point	Brick	
Adding	Line	Wood	
Adding	Line	Concrete	
Adding	Line	Brick	
Adding	Field	Wood	
Adding	Field	Concrete	
Adding	Field	Brick	
Framing	Central point	Wood	
Framing	Central point	Concrete	
Framing	Central point	Brick	
Framing	Line	Wood	
Framing	Line	Concrete	(La Congiunta)
Framing	Line	Brick	
Framing	Field	Wood	
Framing	Field	Concrete	
Framing	Field	Brick	
Subtracting	Central point	Wood	
Subtracting	Central point	Concrete	
Subtracting	Central point	Brick	
Subtracting	Line	Wood	
Subtracting	Line	Concrete	
Subtracting	Line	Brick	
Subtracting	Field	Wood	
Subtracting	Field	Concrete	
Subtracting	Field	Brick	(Klippan)

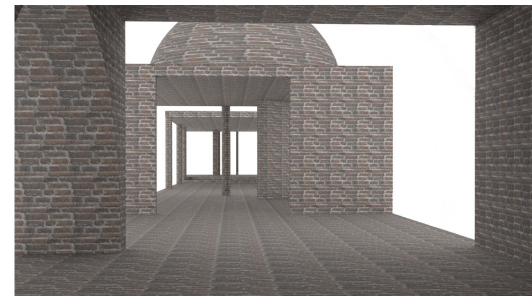
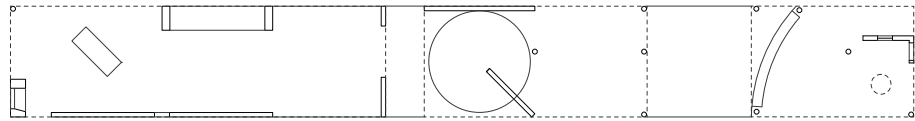
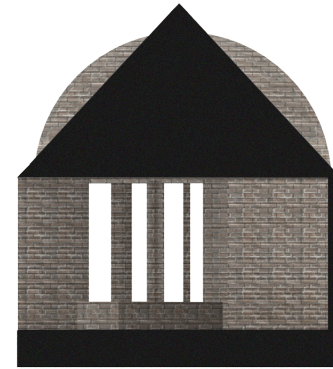
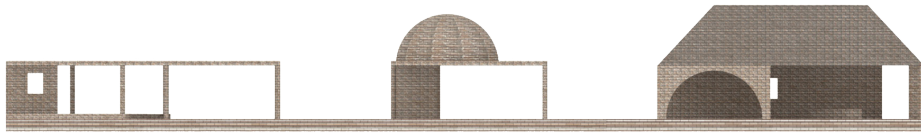
By not combining any categories from the same reference, one is left with six conditions which are independent of any significant reference to one particular project.

Adding	Line	Brick
Adding	Field	Concrete
Framing	Central point	Brick
Framing	Field	Wood
Subtracting	Central point	Concrete
Subtracting	Line	Wood

Adding

Line

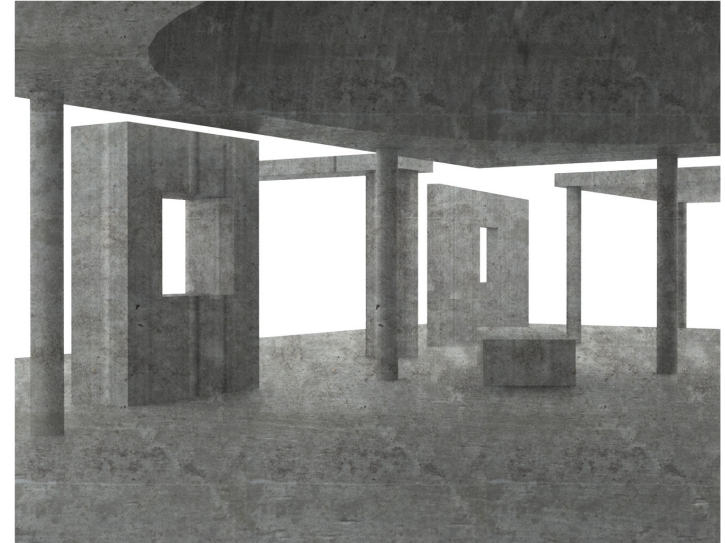
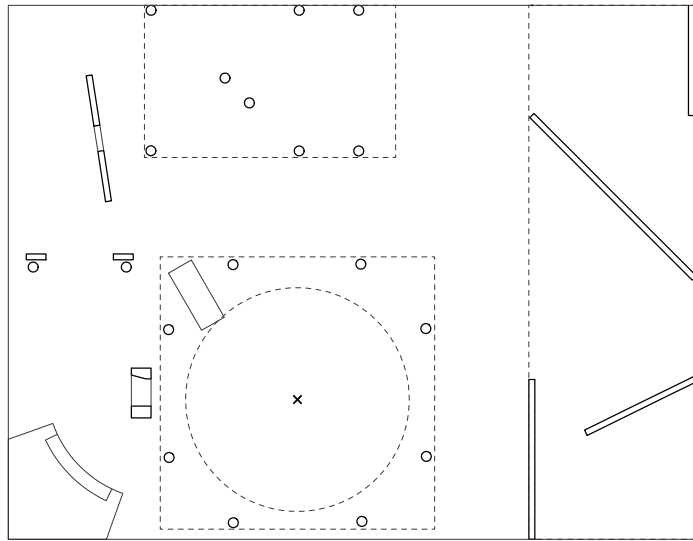
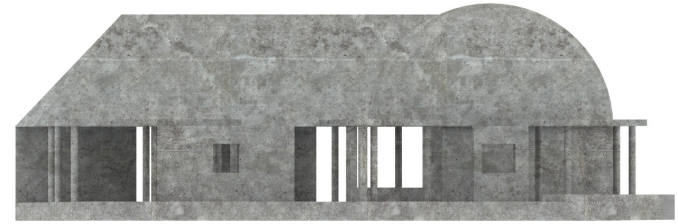
Brick



Adding

Field

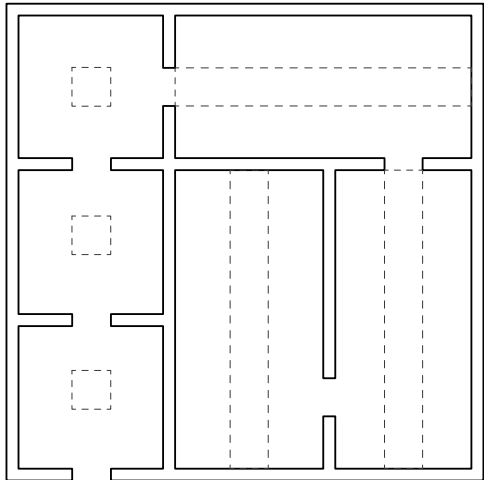
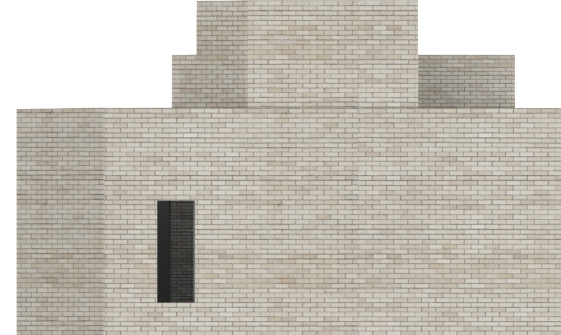
Concrete



Framing

Central point

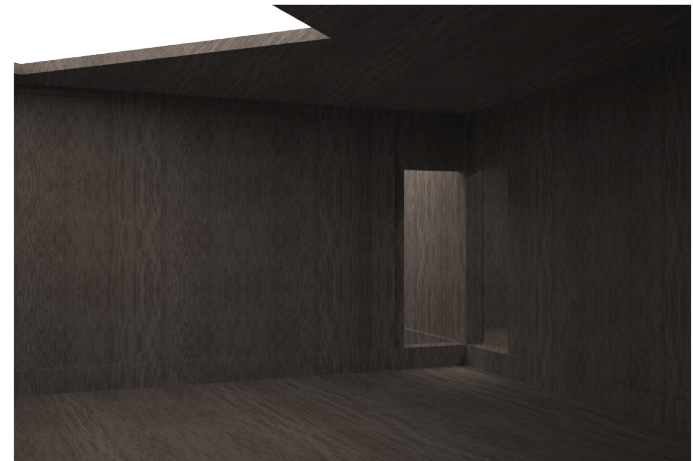
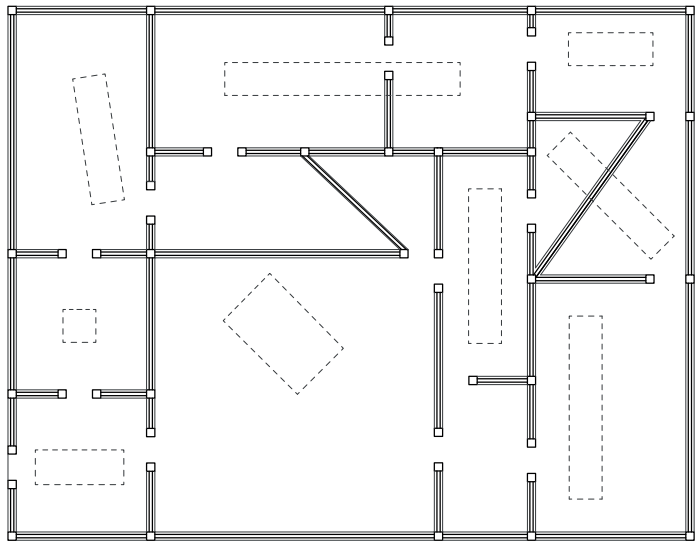
Brick



Framing

Field

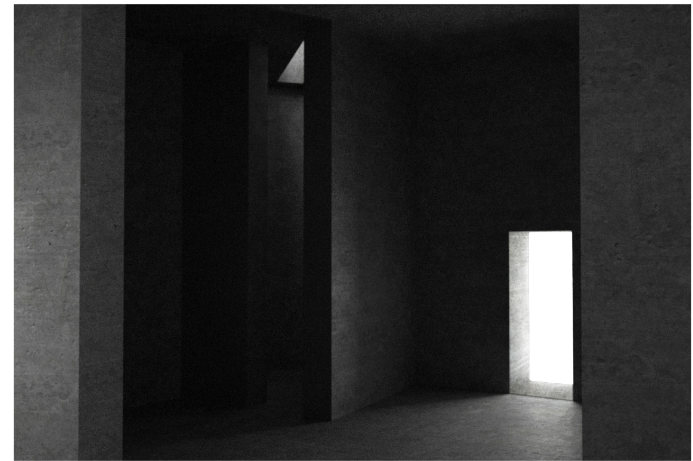
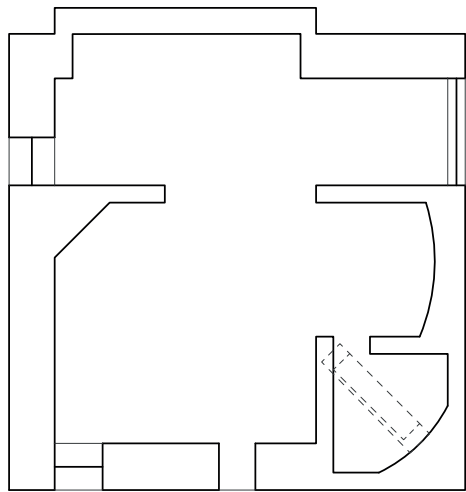
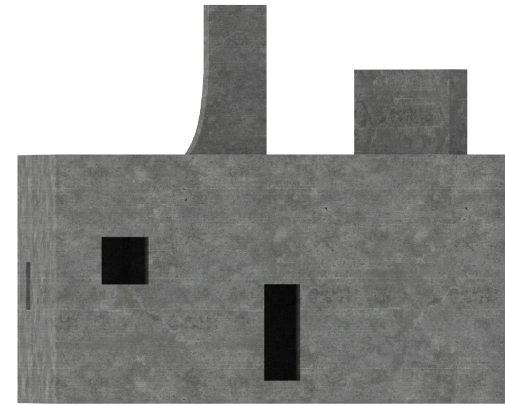
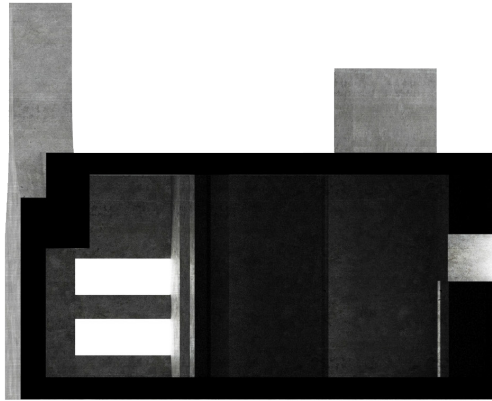
Wood



Subtracting

Central point

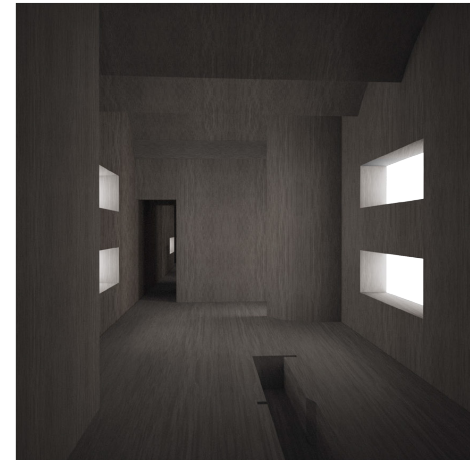
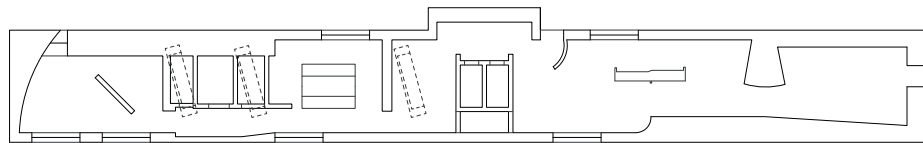
Concrete

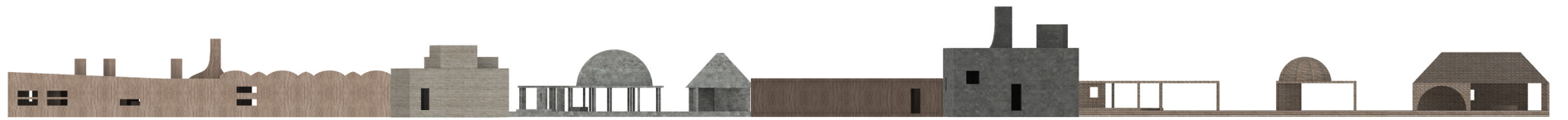


Subtracting

Line

Wood





Adding

Subtracting

Dividing

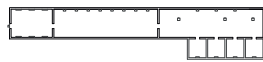
Line



Brick



Wood



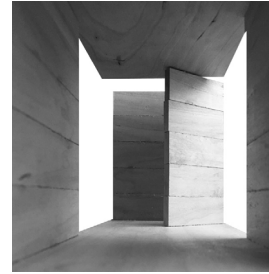
Concrete

Adding

Subtracting

Dividing

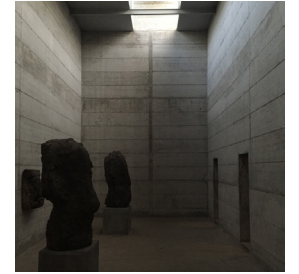
Line



Brick

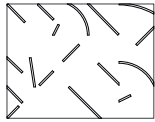


Wood



Concrete

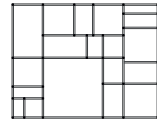
Field



Concrete



Brick

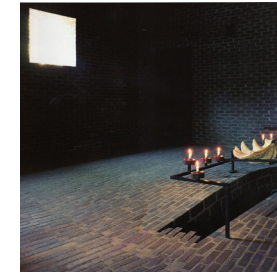


Wood

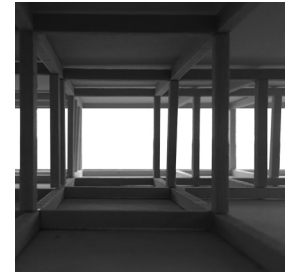
Field



Concrete

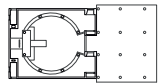


Brick



Wood

Central point



Wood



Concrete



Brick

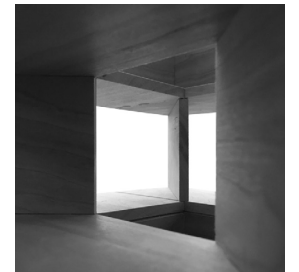
Central point



Wood



Concrete



Brick

Adding

Line

Brick



Intension:

The structure is made from adding walls to a linear composition. The placement of walls is done according to the composition of La Congiunta. The space only slightly indicate zones within the structure. The roof is added to close in parts of space, but not to touch the edges of walls in the linear direction.

Further:

The structure could be a continuous space, structurally made up of additive elements, making it relatively light, but not completely transparent from any point of view. It could be lineary organized in plan or section, avoiding complete subdivision or complete transparency.

Critique:

The flat roof has nothing to do with the material properties of brick. Without a program, this structure seems arbitrarily composed, and does not have much integrity based on its own premises, because the placement of walls only follow the composition of La Congiunta.

Adding

Field

Concrete



Intension:

This structure is made from walls which follow the diagonal and curved lines showing the proportion of volumes in St. Petri church. There are no free-standing walls without a roof, but some walls go beyond or intersect roofs. The intention is to make walls which suggest directions in the field, but not framing or clearly subdividing the space into clear volumes.

Further:

The structure could be a space made from walls that are dependent on each other tectonically, suggesting directions and zones within a field. The field should have a size that does not give one single overview from within, with walls expanding in both directions. With all directions of walls, the structure could be very thin regarding lateral and radial force.

Critique:

The roofs indicate clear zoning of three spaces, this is not an intended consequence of the study.

In concrete, additional elements can be made in completely different ways, and not only extrusion of a plan composition.

Dividing

Central point

Brick



Intension:

The structure is made from walls in three floors, subdividing the space in three different ways. The first floor divides the space orthogonally in thirds, the second diagonally to make four triangular spaces, and the third dividing with a square, making one space outside and one space inside the perimeter. The floors are divided in nine, with the middle square as a void so that the floors can be viewed from each other. The intension of this structure is to make three different subdivisions of a square, together constituting a cube.

Further:

This structure could be a cube that is subdivided in both directions. Different subdivisions give different tectonic qualities which can work together to make an unforeseen systems, for instance systems that intersect and blend into each other.

Critique:

Dividing a cube can be done in less obvious ways, making more use of the section.

Dividing space with walls which are organized in plan is an easy way of using brick, and this material can be used as a constructive system in all directions.

Dividing

Field

Wood



Intension:

This structure is made from beams and columns subdividing the field into 19 rectangles with different sizes. The space is relatively transparent, with columns breaking the line of sight. The division is based on the composition of St. Petri church, where different systems of proportion meet, intersect and constitute the volume of the field. The intension has been to make a field that is subdivided, but yet conceivable as a whole, dividing in clear zones, but at the same time not being completely segregated.

Further:

This structure could be a big continuous space, without clear boundaries of movement and sight. As a plan, it works as a non-hierarchical space, in the sense that there are no serving or served spaces. Systems that are juxtaposed to make unity is a theme that can be developed from this, working with a field and at the same time working with a unified volume.

Critique:

The space could also be subdivided in section.

The layout is a bit conventional as an idea for further development.

The frames do not have to be orthogonal, and other, less obvious ways of dividing space are less indicating regarding structure and program.

Subtracting

Central point

Concrete



Intension:

This structure consists of one cubic block, with a square void inside.

This void is also cubic form, proportional to the perimeter volume.

The void is angled and offset, resulting in the openings and direction of the inside space. The intension has been to subtract mass from a solid, working with clear geometry, but to show this subtraction with a slight offset from the centrality of the composition.

Further:

The structure could be more developed as a study in making void from a solid, with a direct coheresion between the act of casting and the spatial idea of subtracting from a solid. The strcutre could be more complex, so that voids intersect, and make a more optimized structure tectonically, yet more complex spatially.

Critique:

Concrete does not demand extrusion or linearity to function structurally.

The space should indicate a scale that is coherent with other studies.

Subtracting

Line

Wood



Intension:

The structure is made from solid blocks of wood which are placed in a rhythm along a linear composition. Each block has a carved opening, the first opening being in the scale of a door (3:8) and the last three times taller (3:24). Between these two dimensions, an irregularly sloped line determines the increasing height of the openings. This motion binds the blocks together, indicating continuity between them. The intension of this structure has been to make a linear subtraction that consists of modules, because wood as a building material normally is made from modules or parts that are joined together.

Further:

This structure could be further developed to make a more complex linear movement, and subdividing this movement into parts that represent the module of wood. To emphasize the act of subtraction more one should find a way of making a wooden structure which still feels like a solid volume. Yet, it should not be understood completely as a subtracted space, because the duality of the spatial intention and the material tectonics is interesting.

Critique:

The relation between the outer volume and the void could be more interesting. The straight linearity of openings in plan seems like a non-choice.

Drawing a plan and then extruding this plan to make a model is a very limited way of making space. Even though these models make principally different spaces, they seem somehow conventional as structures, not raising new tectonic problems or producing new ways of making space. This is of course partly because of the limited time this amount of studies have been made, partly because of the proximity of influence from the reference projects.

Without a clear compositional guide, these structures does not have an clear spatial intension. Perhaps a program is needed in order to make desicions regarding the organizing of space.

Material properties of each strucutre could have been studied more, making more clear diffrensations between structures of brick, wood and concrete.

In further developement, one should be more critical to aspects of the studies that are only implied, and challenge the way walls, columns, floors and roofs are used in relation to the rules that are set in the analysis. To be able to focus the study, and escape the generic result of repeting variations of an analysis, limiting the material which is studied in further developement is necessary.

Introducing a program to one of these studies could generate ideas which are critical in both directions: critical to the structure because the program intruduces new paramters to the existing study, and critical to the program because the study already have some limitations and intentions within them. Finding a program that “fits”, in the sense that the joining could be productive in both directions, and that this joining could produce a clear and critical way of making e.g. a dwelling, an office or a gallery, would be the goal of this gesture. The result would increse the complexity of the study, an perhaps make it easier to escape the formal language of the reference projects. If this is done, one has to be clear about what aspects of the study which is kept, and how this fits into to the theory of the analysis.

Seeking the spatial intension of the project, and reflecting upon how this intension stands in relation to the reference projects, will be an important criterion. The link between the new space and the studied projects should not be blatant, but rather supprising. If the relation between these are too obvious, the diploma project becomes pure rhetoric.

