

A NEW ALPHABET

Casting a catalogue of possible form

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CHALMERS

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Introduction

ABSTRACT

This thesis explores an architecture with an inner logic, through the design of a public library. It aims to build an architectural language that follows its own rules, which seems to be neither arbitrary nor obviously understandable.

The thesis draws inspiration from how writing systems are constructed. The smallest entities in a language, the characters, are limited in number and meaning, but combined they form meaning that is greater than the sum of the parts. The combination of characters occur according to a set of principles, the grammar.

The alphabet in this thesis is achieved by casting a limited set of physical concrete models, which equals a 'catalogue of possible form', which is the main design driver of the proposal. Each cast forms one character in the alphabet, with material features from the casting included, according to each characters casting logic.

During the 1970s the architect and theorist Peter Eisenman developed theories about architecture and linguistics. Eisenman translated architectural elements in the real world to a notation in the conceptual realm which he claimed carried the meaning of the original object, with a similar connection as between a word and the physical object described by the word in a regular language. He also worked with what he called the architectural syntax, the logic of which the parts within a whole are relating to each other. This thesis shares Eisenman's interest for architectural syntax, but the characters in this alphabet are strictly geometrical form, and do not have any semantic meaning attached.

This thesis places itself in between conceptual and phenomenological architecture, using a conceptual method to phenomenological ends. The conceptuality of the building is not end in itself, but rather a method of generating coherent but not strictly logical form, open to interpretation. The main reason for the method is the experiences of the different materials and spatial qualities of the architecture.

As a consequence of the alphabet and the casting this thesis also deals with the concept of *poché* space, as it develops its own plan type: thick objects in space.

The thesis' main emphasis is on the design process, and how to find a balance between rule and exception.

THESIS QUESTIONS

How can one work with systematics while still keeping an intuitive mode of designing?

How can a 'catalogue of possible forms' be used as a method for architectural design, with the allegory of a writing system.

How can a project benefit from parallel 'bottom up' and 'top down' processes, defining the parts prior to the whole, but iteratively redefining the parts depending on the outcome of the whole?

STUDENT BACKGROUND

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Education

Chalmers University of Technology
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Masters program in Architecture and Urban Design
Matter Space Structure 1
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Bachelor in Architecture

Employment

Raumlaborberlin

Berlin, Germany
mars 2017 - june 2017
Architect

Raumlaborberlin

Berlin, Germany
sept 2016 - feb 2017
Internship

Theory

INNER LOGIC

The project aim to build up and be driven by its own inner logic. A logic that is kept together by the design process rather than external issues, such as building traditions, standardized measures and conventions in the building industry. The inner logic is meant to form an architectural language that follows its own rules, to keep the proposal coherent, but still without being fully understandable.

Since the inner logic is a process based logic crucial to the project is the definition and fine tuning of the design process. Important parts to fine tune is the rules and principles for the inner logic, such as defining grid sizes, possible combinations and the characters of the alphabet.

Mainly a bottom-up approach is used, where the development of the parts drives the proposal for the whole, but it also operates in a continuous feedback loop with a top-down approach, not hesitating to change the alphabet during the design process. Due to the continuous feedback loop with bottom-up and top-down approach, the specific alphabet is related to the specific library proposal, but might as well be able to form other buildings with other purposes.

An example of working with an inner logic is the art work Black Wall, by Louise Nevelson. Black wall is a collection of found wooden objects, which has no direct connection except for being found in the same area. The pieces has then all gone through the same process of boxing, painting and collaging that gives them a coherence in their logic, deriving from the process rather than the original objects.



Black Wall, Louise Nevelson, 1959

IN BETWEEN EISENMAN'S CONCEPTUALITY AND ZUMTHOR'S PHENOMENOLOGY

In 1641 René Descartes introduced the thought about a split between the body and the mind ("René Descartes", 2019). To what level this is true or not is still a subject of debate, but humanity's view on itself have been strongly influenced by this thought ever since. A dichotomy in architecture which relates to the idea of the mind-body split is the one between a conceptual and a phenomenological view on architecture, where conceptual represents the mind and phenomenological represents the body (Artemel, 2019).

The conceptual school uses an logical and intellectual approach to understand architecture. One of the most distinct conceptual architects is Peter Eisenman. Eisenman distinguish between "real architecture" and "real buildings", where the "real architecture" is the architecture as conceptual ideas and "real building" is the physical building. He calls his early work, which is among his most conceptual work, cardboard architecture, since he wanted his physical buildings to be as close to the conceptual architectural cardboard model as possible. Thereby neglecting material, site, function and scale in favour of architecture as syntax, where form is conceptualized as an index, a signal or a notation. (Ansari, 2013)

The other end of the spectra, phenomenology, is on the contrary all about the bodily experience of the physical building, and can be exemplified with the work of Peter Zumthor. In his book *Atmospheres* (2006) Zumthor states that quality in architecture is when a building manage to move him. What atmosphere a building possesses and which feelings that are evoked when entering a room. Zumthor's work is often characterized by a high level of craftsmanship and materiality.

This thesis places itself with one foot in both the phenomenological and conceptual world. It uses a conceptual approach with the systematics and conceptuality of the alphabet. At the same time it doesn't regard the conceptuality as a goal in itself, but rather a method to create coherent but not directly logical form. The concept is not meant to carry out any specific meaning. What carries out meaning in the project is instead the spaces that are created and the materiality and atmosphere that is experienced.



House III, Peter Eisenman



Kolumba Museum, Peter Zumthor

ARCHITECTURE AND LINGUISTICS

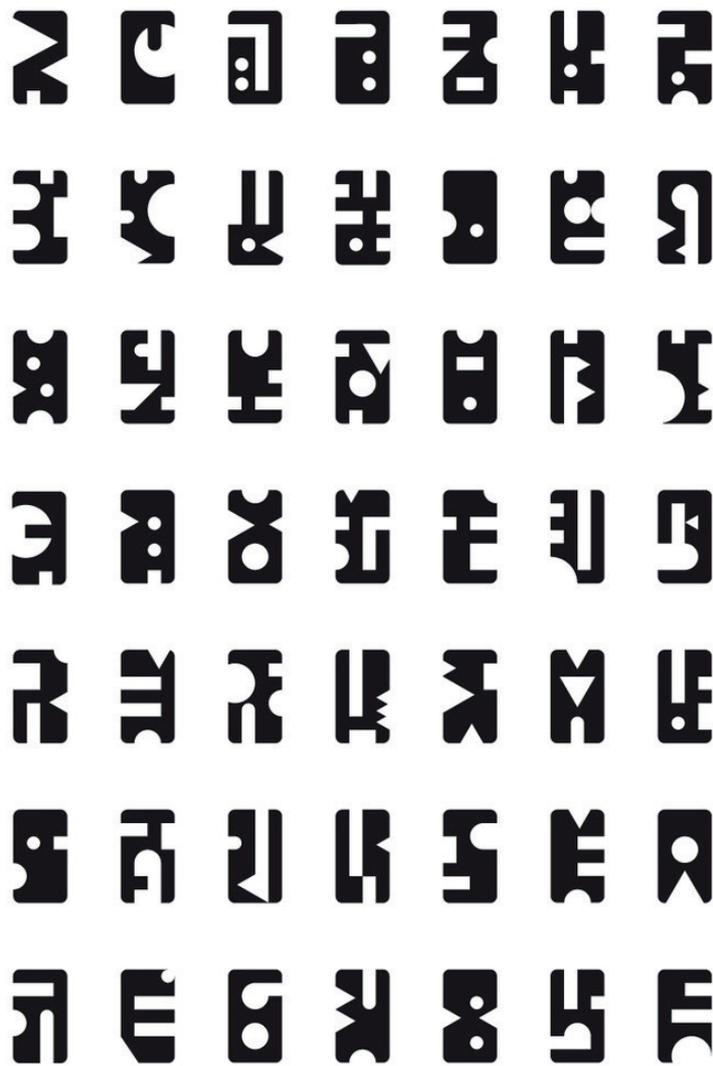
The American philosopher and semiotician Charles W. Morris is dividing semiotics, the study of sign processes, in three parts; syntax, semantics and pragmatics. He defines syntax as the study of how signs relate to other signs, semantics as the study of signs in relation to the world and pragmatics as the study of the how signs are used. (“Syntax”, 2019)

In architecture the use of syntax can be translated to how parts of a whole relate to other parts of a whole, in terms of how they are perceived, or read. The difference between the syntactic logic and the structural logic can be exemplified with the fact that the actual load carrying structure is not always equal to what is perceived and read as the load carrying structure. A column does not have to be load bearing and act structurally as column, but can still be perceived as one.

In Peter Eisenman’s theoretical and built work during the 1970s there are many links to language. In his series of Houses (I-X) he is aiming to establish a linguistic model for architecture. In his book *Eisenman Inside Out* (2004), he discuss the relation between a word and an object in linguistics. The formal structure of the word is not directly linked to the object it describes, but acts as a sign or notation that represent the meaning of the object. For his series of houses, Eisenman tries to create a similar sign-system to translate architectural elements into notations, such as column, beam, that could represent the semantic meaning of the element. He also argues that within a conceptual attitude to architecture the physical object could be replaced with the language that describes it (Eisenman, 2004).

This thesis does not engage as literary in grammar and linguistics as Peter Eisenman, but uses the alphabet as an allegory for casting a limited set of concrete casts, the *characters*, which defines a catalogue of possible form for the project. The characters are limited in form and usage on their own, but combined they form something greater than just the sum of the parts. The combination of characters, the syntax, occur according to a set of principles, which can be seen as the grammar. This grammar is something that will be present in the building, but not necessarily understandable to the observer.

The thesis also relates to the art form of asemic writing, writing with no semantic content (Gaze, 2013). Asemic writing is wordless and leaves to the reader to interpret the meaning of the written text, similar to the reading of an abstract piece of art, but share the aesthetics of writing and writing systems. The *Razorsharp Letterset*, by Christopher Skinner, can be placed in between linguistics and architecture, as it is forming a set of letters that have similarities of a collection of architectural plans defined by the relationship between mass and void.

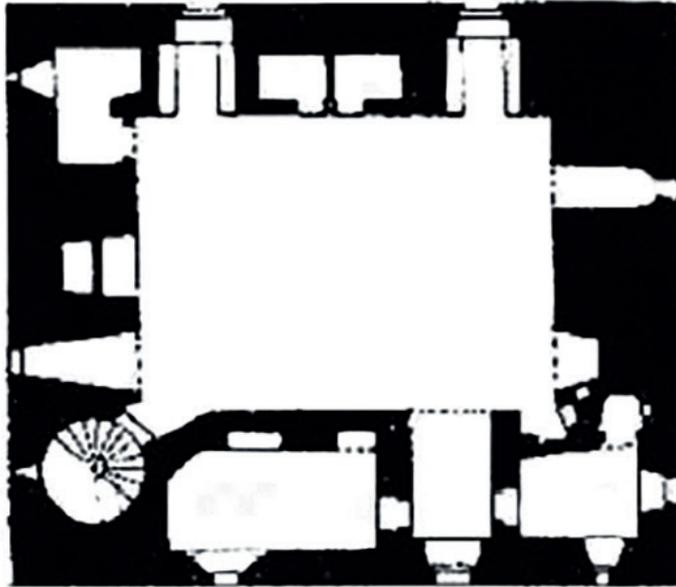


Razorsharp Letterset, Christopher Skinner

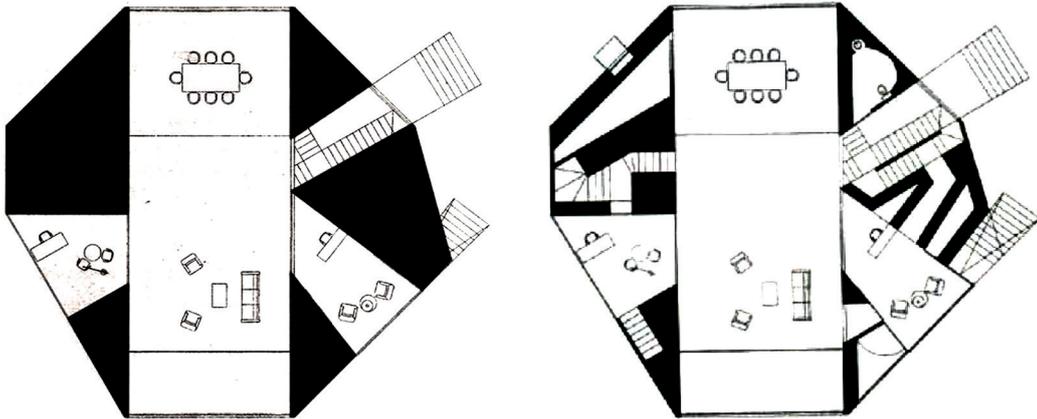
POCHÉ SPACE

In a series of sketches of Scottish Castles, Louis Kahn studied the buildings in terms of void and mass. The studied castles have typically a central large space, which Kahn calls served space, and massive masonry walls, with smaller spaces “excavated” from the masses, which he calls servant space. These are not literary spaces for servants, but rather spaces that serve the hierarchically more important spaces. What was drawn as black in Kahn’s sketches represents mass and is usually described as *poché* space.

In the project Y2K Rem Koolhaas developed a more conceptual way of working with *Poché*. By subtracting a box from the centre of a multifaceted polyhedral he gets *poché* spaces in between the box and the exterior form. He calls this in-between spaces a “thick layer”, which contains functional and technological organs. This procedure was then used in larger scale in Casa da Musica in Porto. Koolhaas differentiates between void and mass, where void, or clean space as he also describes it, is empty and abstract space, and mass, or residual, space is mysterious. His *poché* differs from Kahn’s since it is not mainly actual masonry masses but represents the entire mass of the building. (Gargiani, 2008)



Scottish Castle, Sketch by Louis Kahn



Y2K, OMA

The Alphabet

The alphabet in this thesis is a limited set of physical concrete models, which acts as a 'catalogue of possible form'. Each cast forms one character in the alphabet, with material features from the casting included, according to each characters casting logic.

The 8 characters in the alphabet are all defined according to a similar logic. A rectangular box mold with the proportions 1:1:2 is used for all the characters. Inside the box mold a positive object is placed, which is an acrylic object designed to create a void in the cast. The positive object is designed according to a 3D grid which is called the character grid. The geometry for the positive objects have been evolved with an iterative process during the project to find a balance between aesthetic spatial qualities, variation/coherence and their ability to create a diversity of spaces.

The casting method for the different surfaces of the character are defined by if the surface is cast towards the box mold, which is called character exterior, or towards the positive object, which is called character interior. The surfaces that is defined as character exterior will be cast by a rather rough board casting and the surfaces that is defined as character interior will be cast will with smooth plywood. Some of the surfaces that are character interior will be an exception and be cast with sand, to form a very rough and irregular surface.

CASTING LOGIC

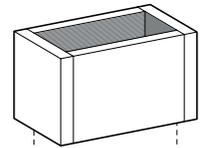
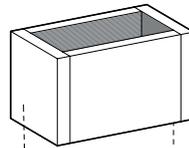
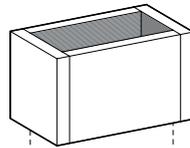
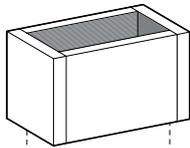
BA1
Box and Aperture 1

BA2
Box and Aperture 2

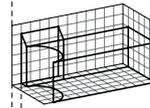
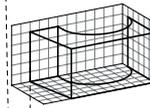
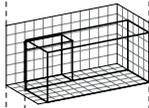
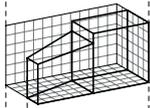
C1
Curve 1

C2
Curve 2

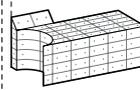
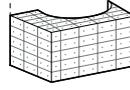
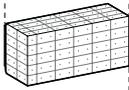
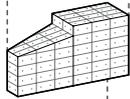
Box Mold
-Defines the surfaces for board casting



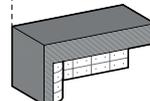
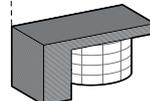
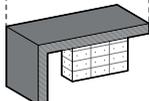
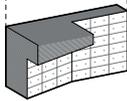
Character Grid
800mm (6x6x12)
-Framework for positive object



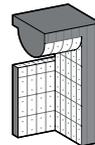
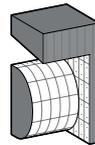
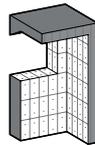
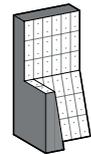
Positive Object
-Defines the surfaces for plywood casting



Character
-Horizontal



Character
-Vertical

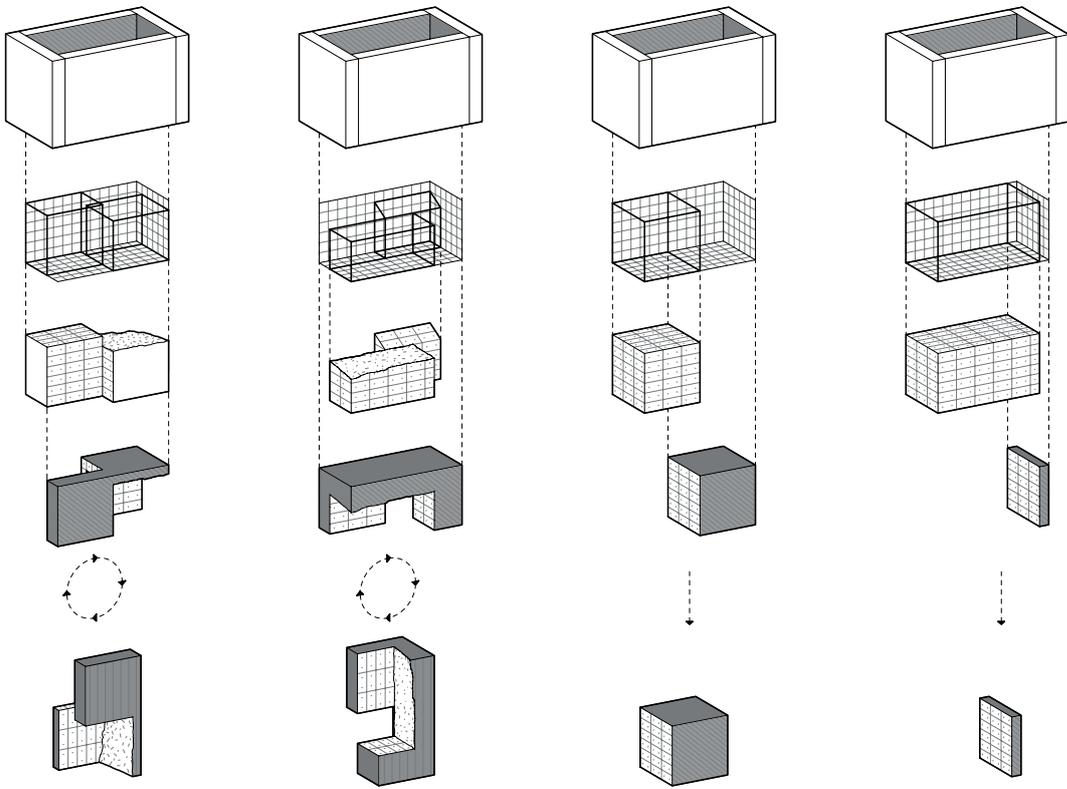


T1
Transition 1
Feature: Sand Casting

T2
Transition 2
Feature: Sand Casting

BG1
Basic Geometry 1

BG2
Basic Geometry 2



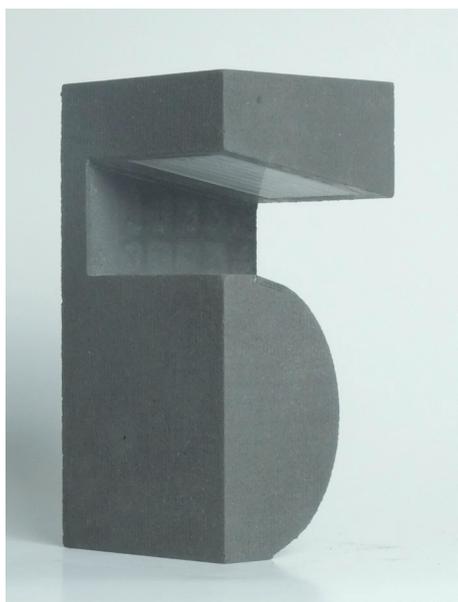
CHARACTERS



BA1 - Box and Aperture 1



BA2 - Box and Aperture 2



C1 - Curve 1



C2 - Curve 2



T1 - Transition 1 - Feature: Sand Casting



T2 - Transition 2 - Feature: Sand Casting



BG1 - Basic Geometry 1



BG2 - Basic Geometry 2

Design Proposal

In the proposed library the characters have been combined according to another 3D-grid called the *general grid*, of which one unit is equal to one short edge of a character. Within this grid the casts have been composed freely to find a proposal that is balanced between spatially intriguing and diverse as well as functioning as a library.

What is solid from the casts are sometimes programmed as secondary spaces, like in Y2K by OMA, and sometime massive concrete like the massive masonry in the Scottish castles described by Louis Kahn. The plan type of the proposal is something that is neither plan libre nor raumplan, but has aspects of both. The method of working with *poché* is also not like OMA's thick layer. The plan type produced by the alphabet is in this thesis called *thick objects in space*.

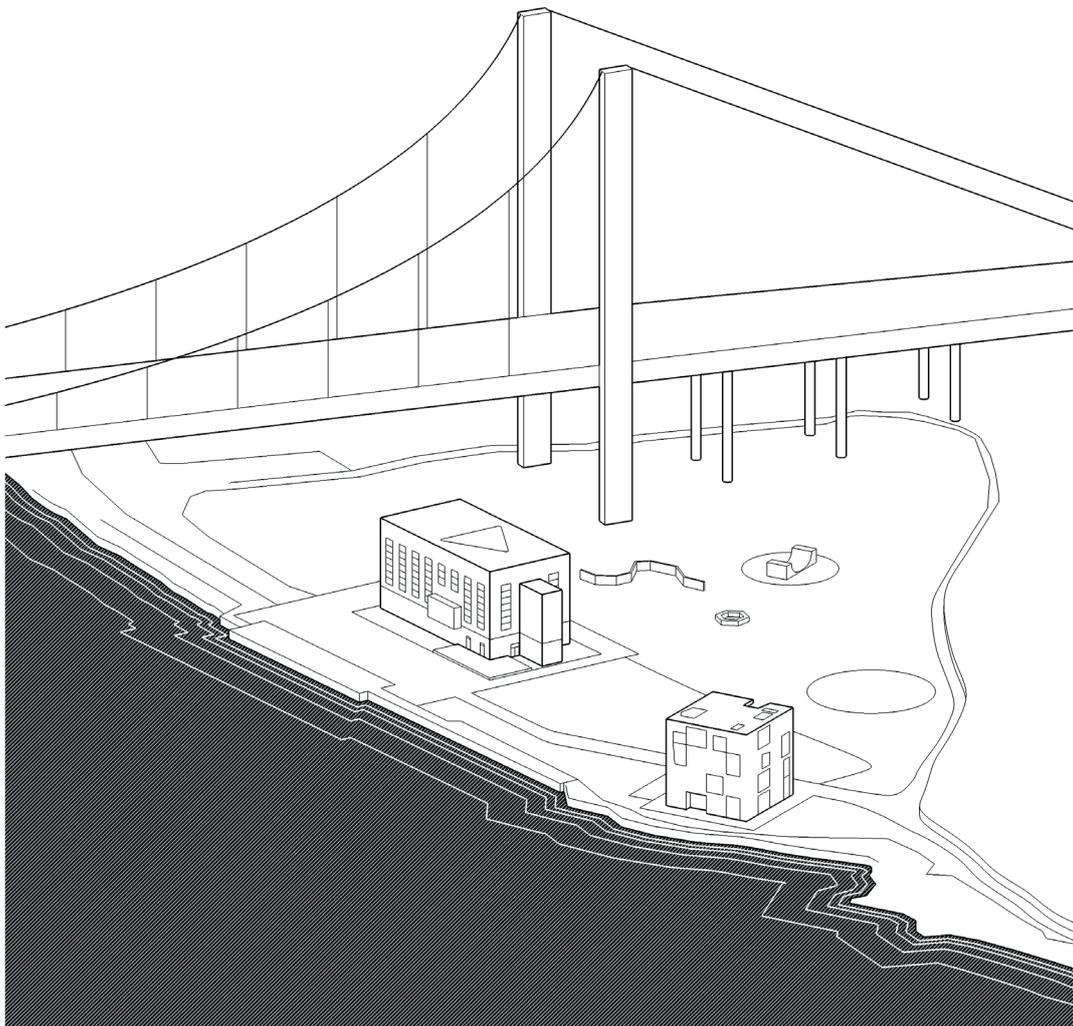
A LIBRARY

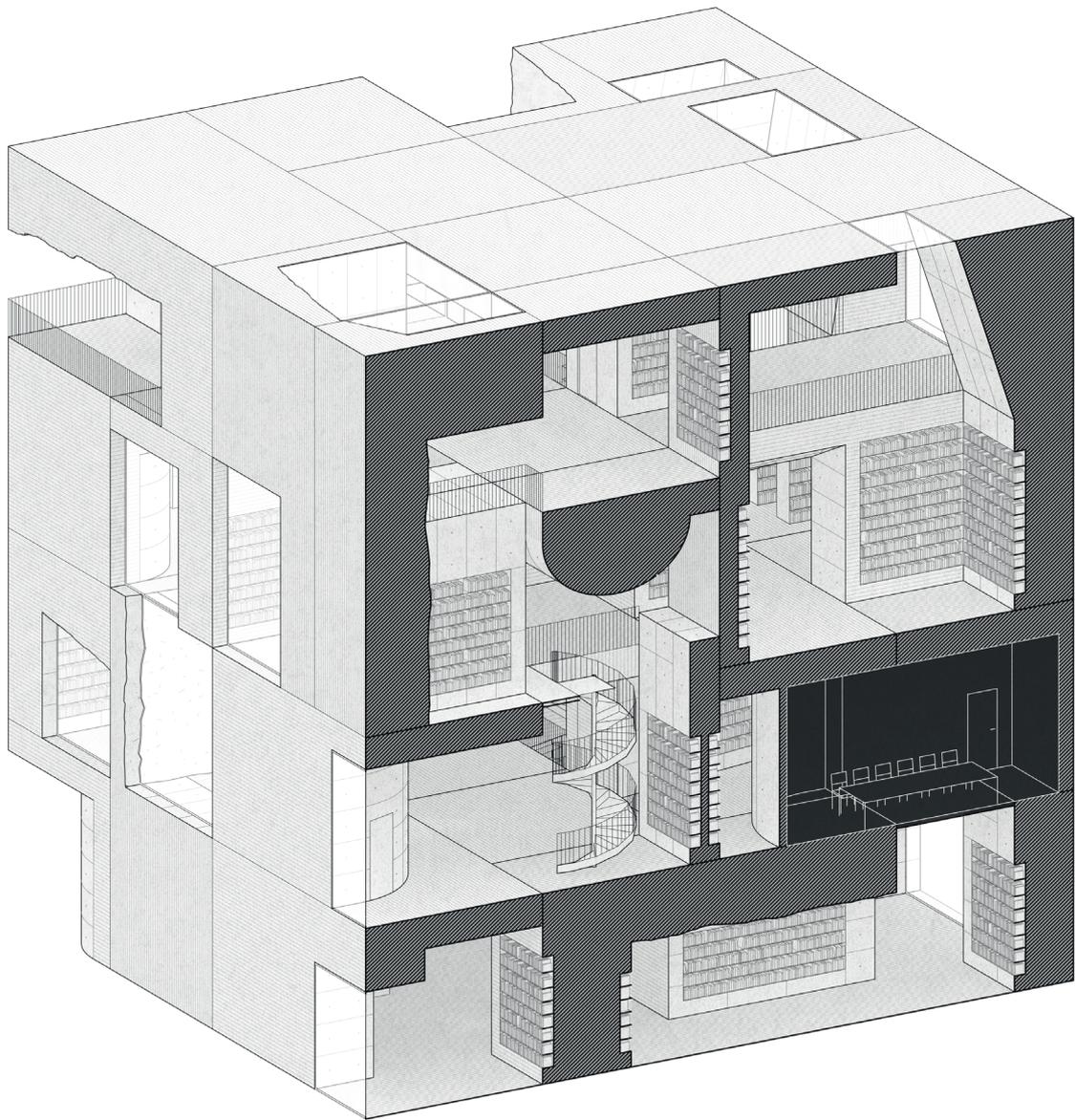
In our contemporary society smart phones and the internet may seem to offer almost everything in information instantly. This may rise the question of the relevance of building a new library today. This thesis acknowledge the importance of a place based and non-commercial institution for gaining and exchanging ideas and knowledge. A place where the information is not finding the consumer based on algorithms and advertisements, but a place where the user needs to find its own information.

The library also acts as a kind of tempered public space. Only a few tempered public spaces are accessible without consuming or submitting to a specific activity. In a society increasingly characterized by polarisation and segregation the needs for such free public institutions are bigger than ever.

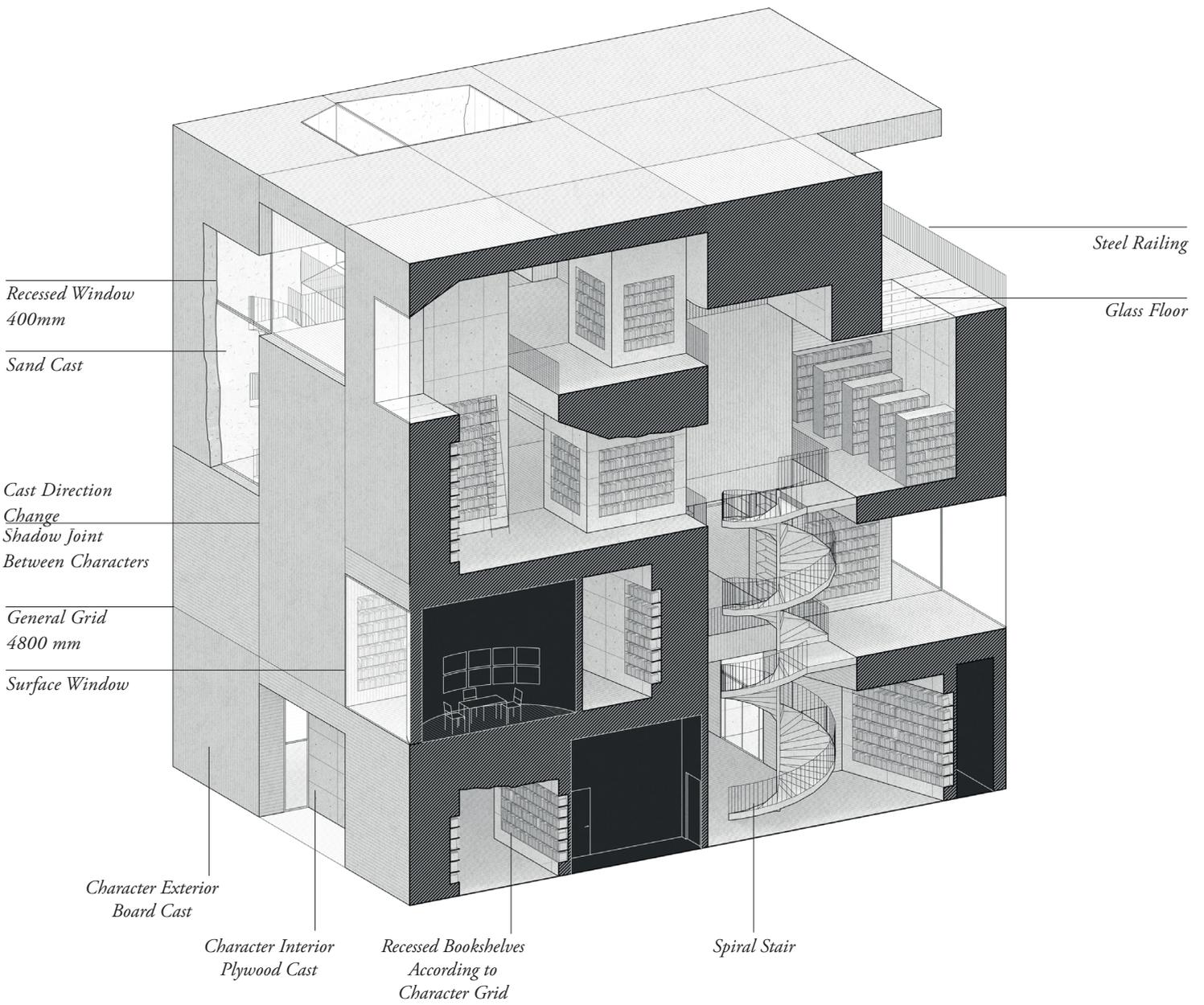
RÖDA STEN

The suggested site for the project is in the area Röda Sten in Gothenburg. Next to the site is the contemporary art gallery of Röda Sten, which is a transformed boiler house from 1940. Röda Sten and the adjacent area Klippan are dynamic areas on the edge of the inner city of Gothenburg, with a mix of old industrial buildings and newer development. The area is dominated by the Älvsborg Bridge which rises tall above the other buildings. The new library is thought of as a complement to the art gallery, providing a free public library with spaces for reading and studying, as well as for lectures and seminars. The two buildings form together a small cultural hub. The new public library does not include restaurant or exhibition spaces, since this is provided by Röda Sten art gallery. The art gallery Röda Sten can make use of the spaces at the new library, in case of larger art events such as the Gothenburg International Biennial of Contemporary Art.

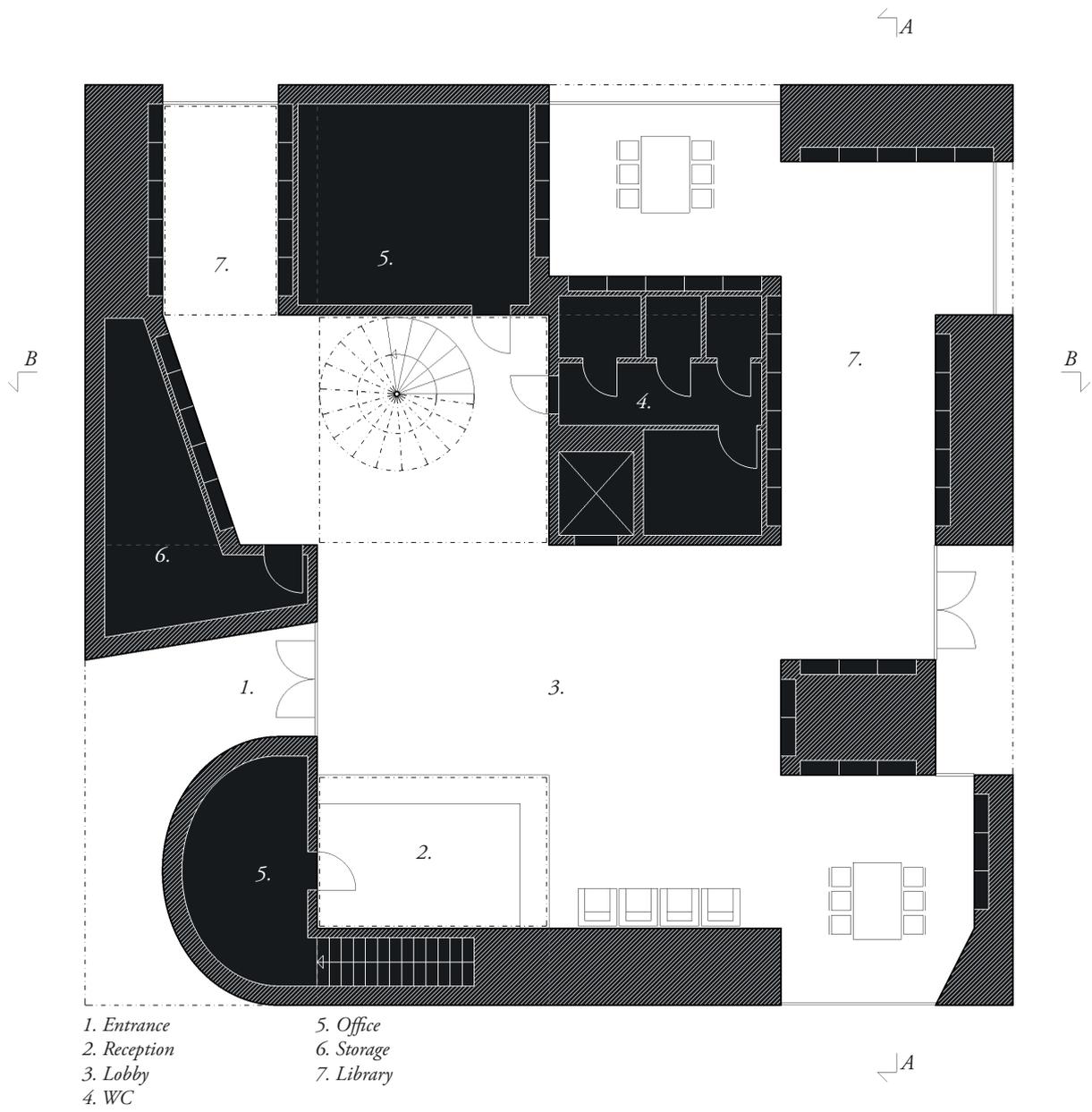




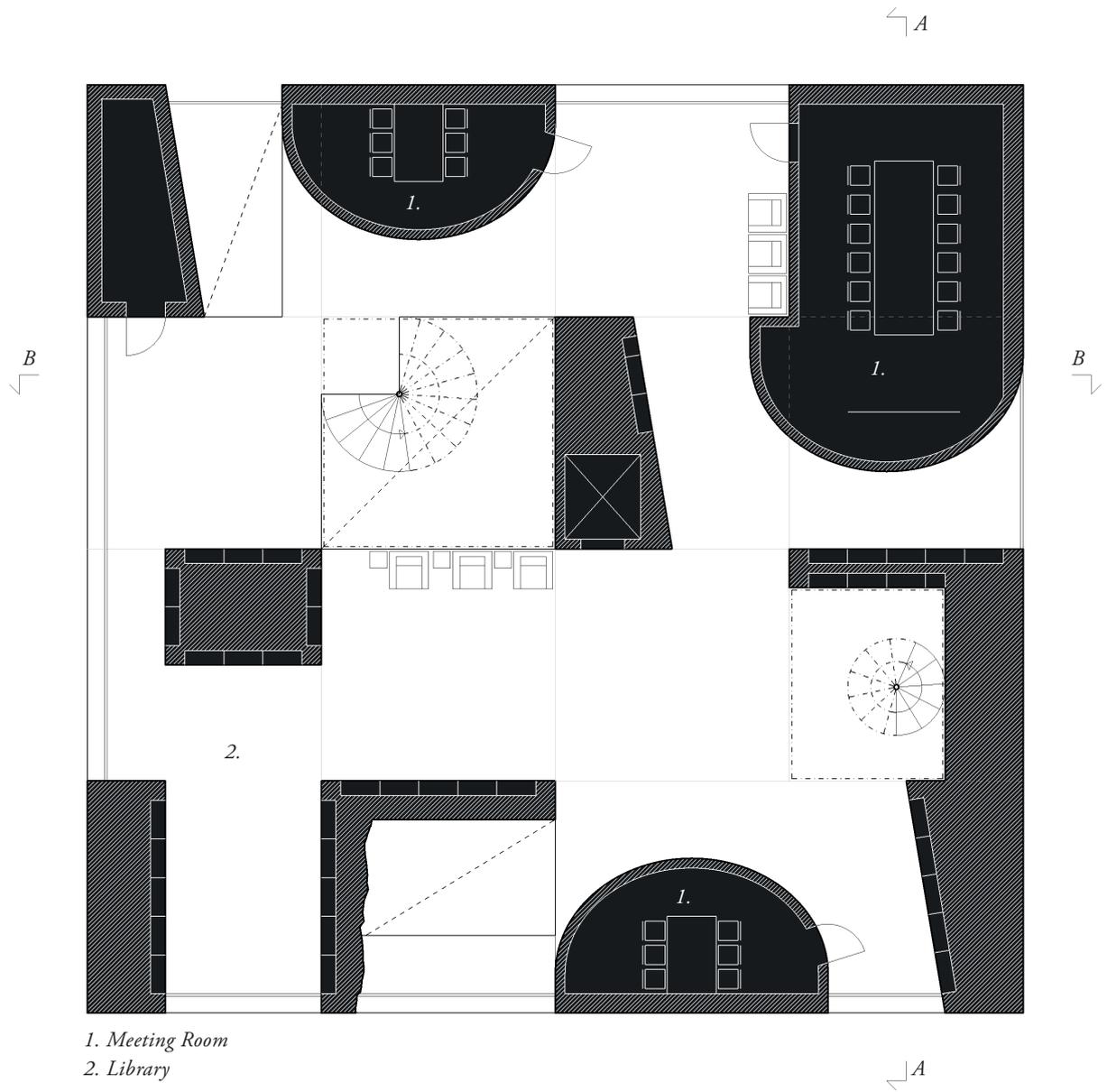
SECTION A - A



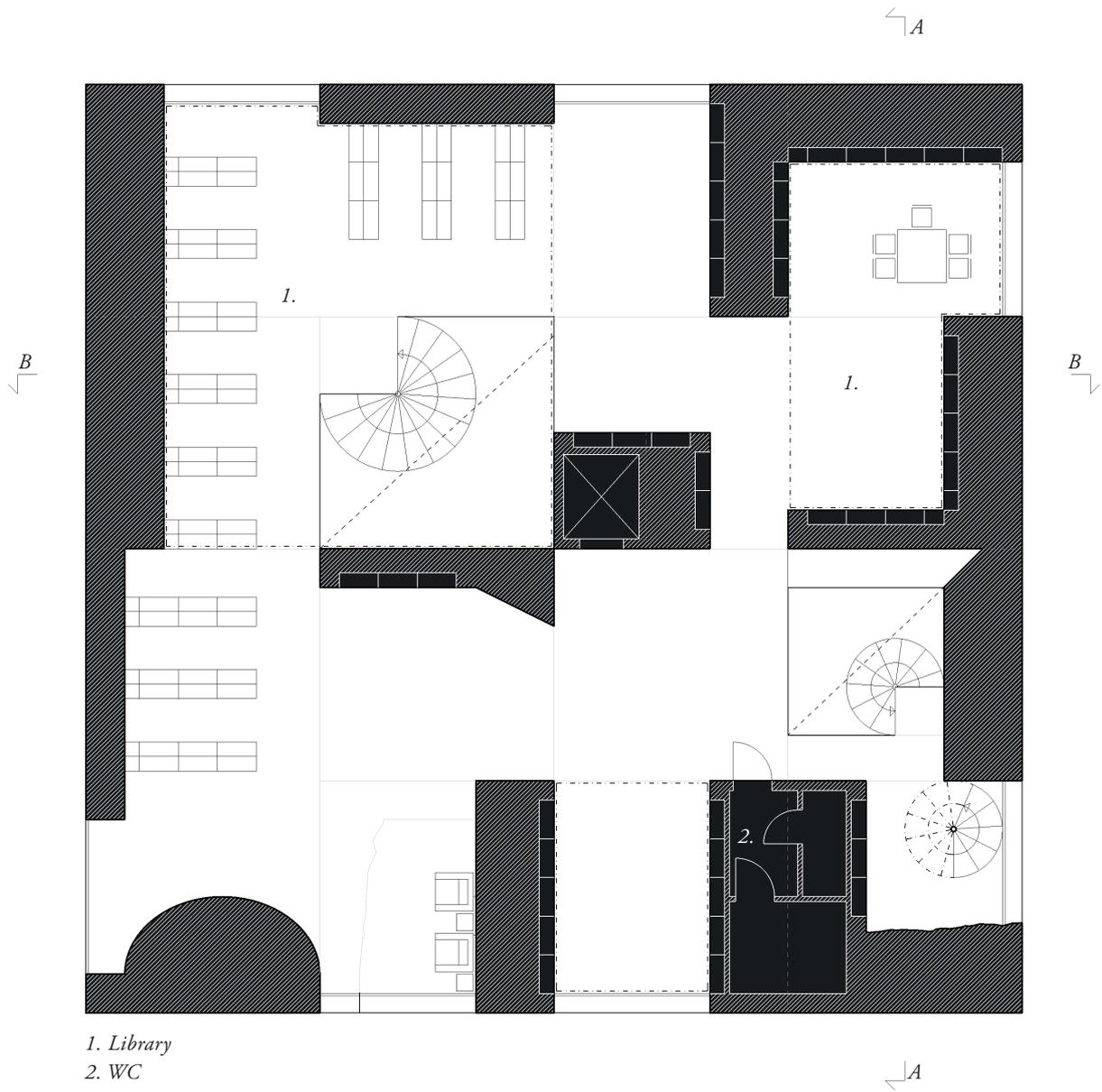
SECTION B - B



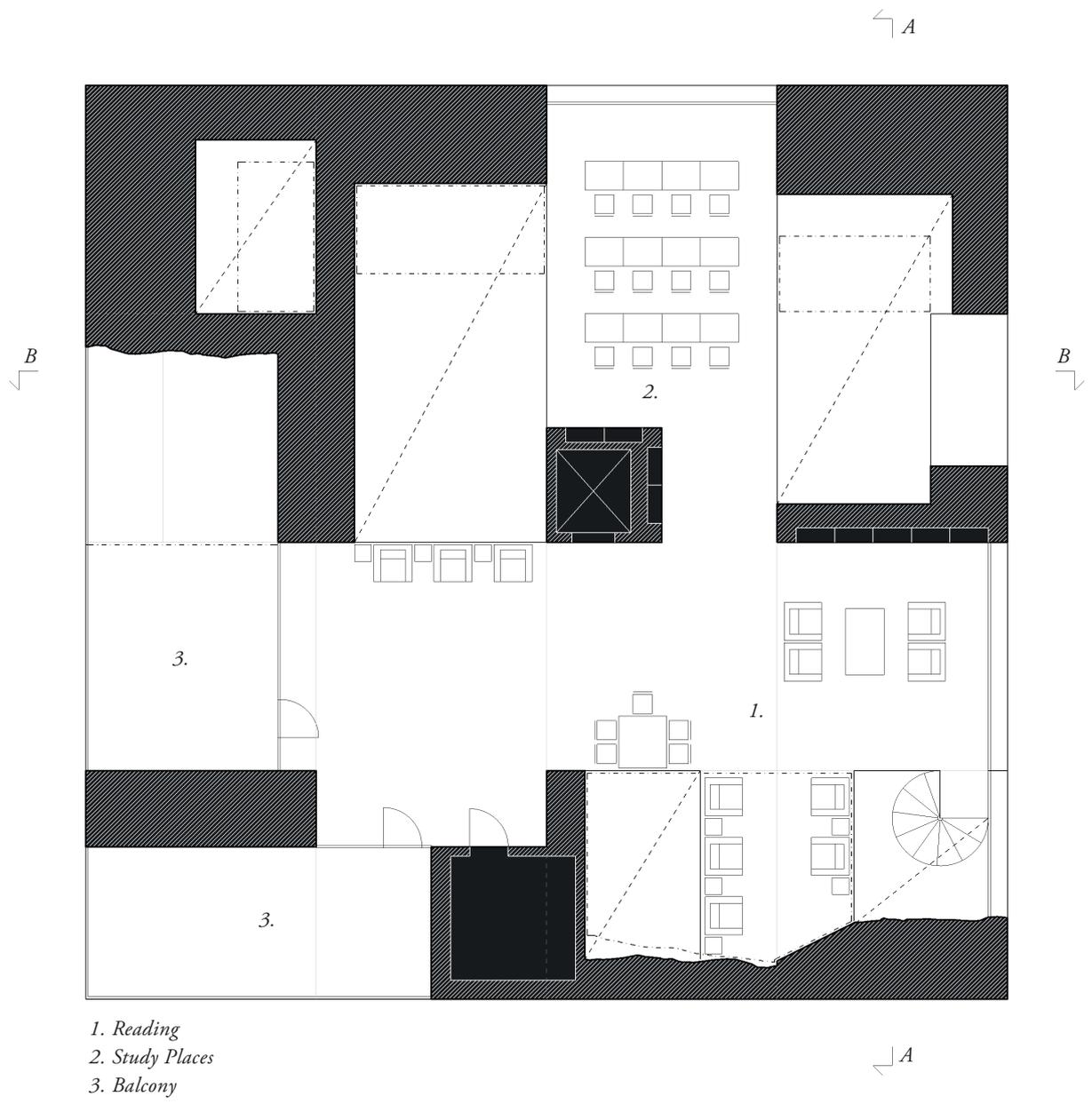
PLAN 1



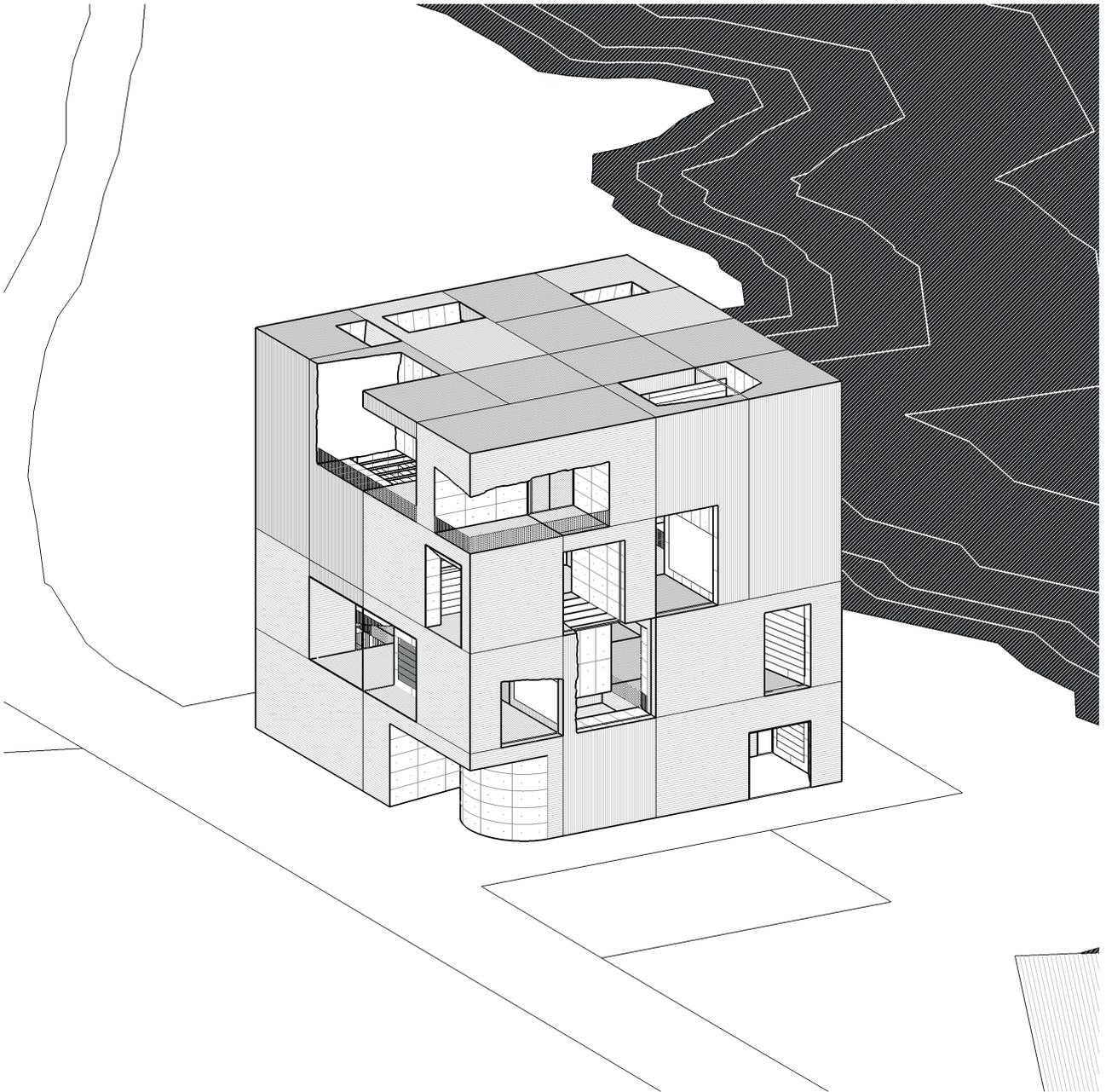
PLAN 2



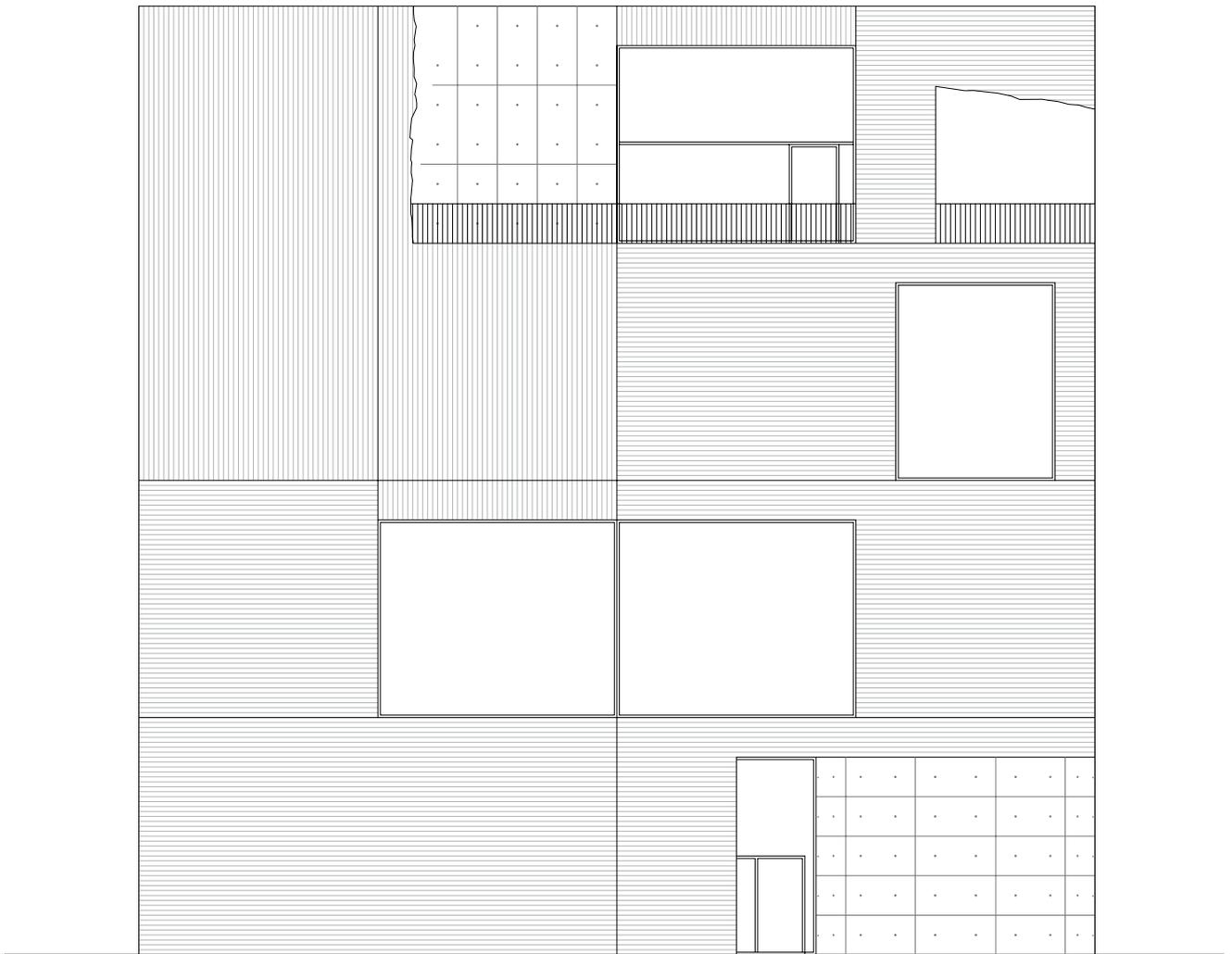
PLAN 3



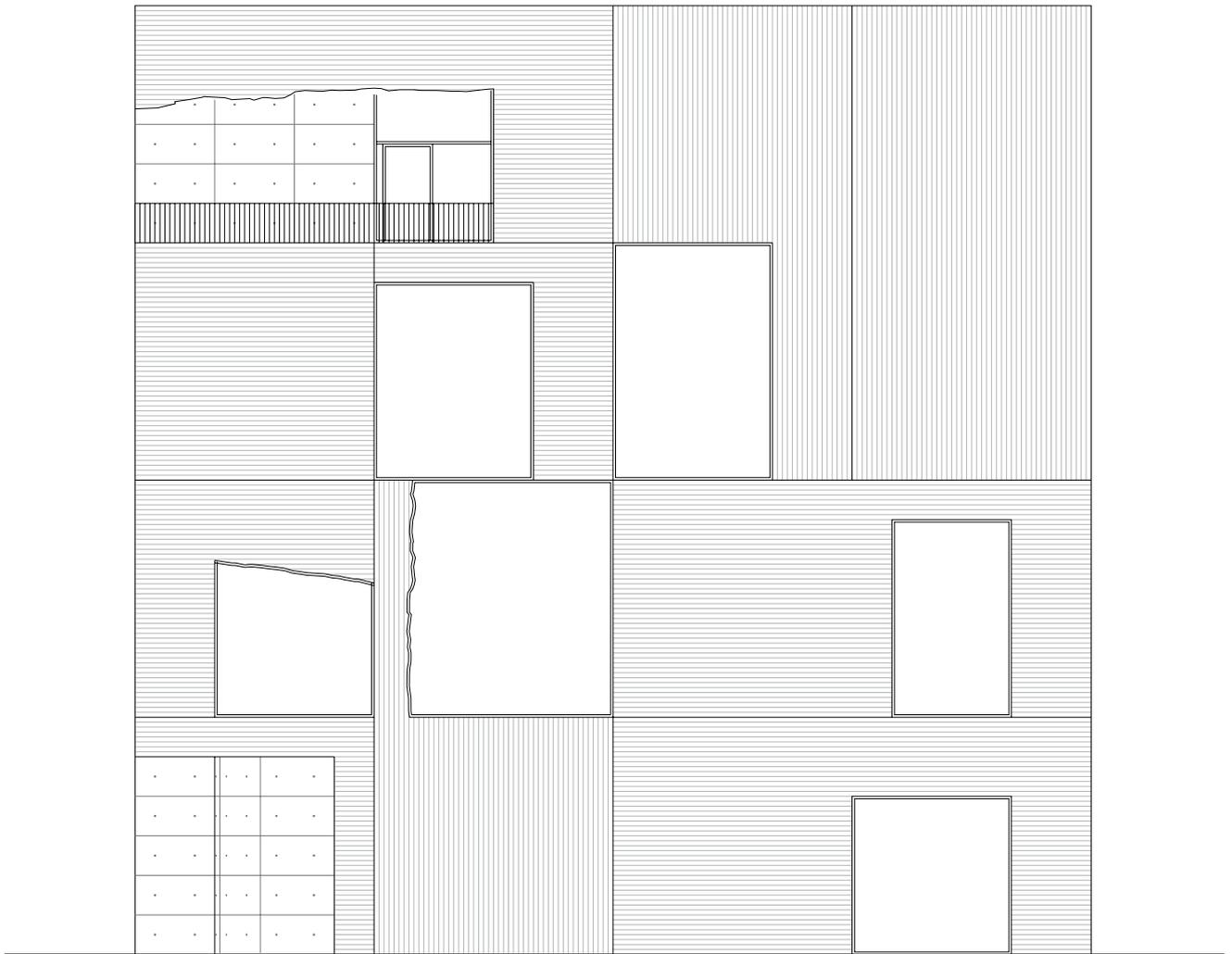
PLAN 4



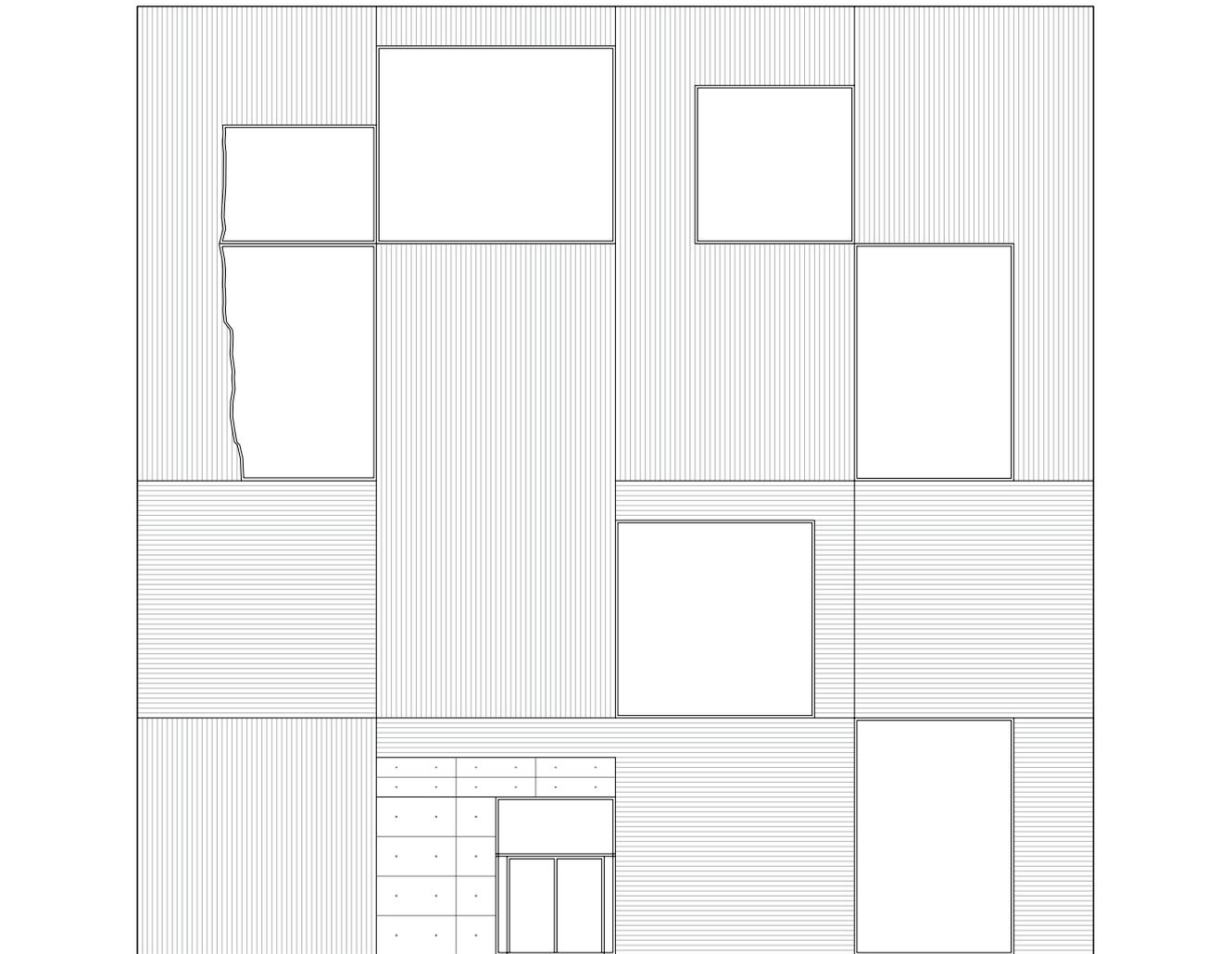
ISOMETRIC VIEW



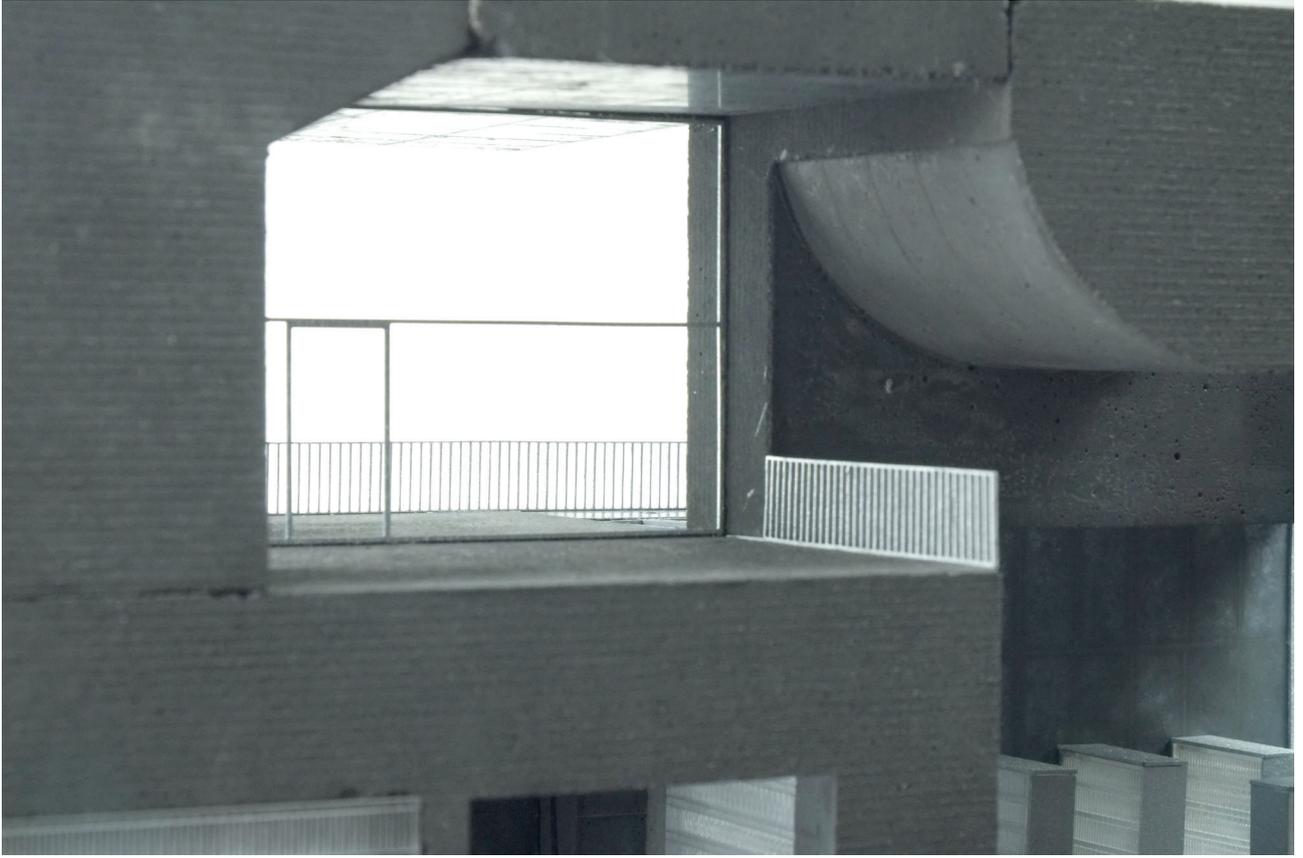
FACADE - SOUTH EAST



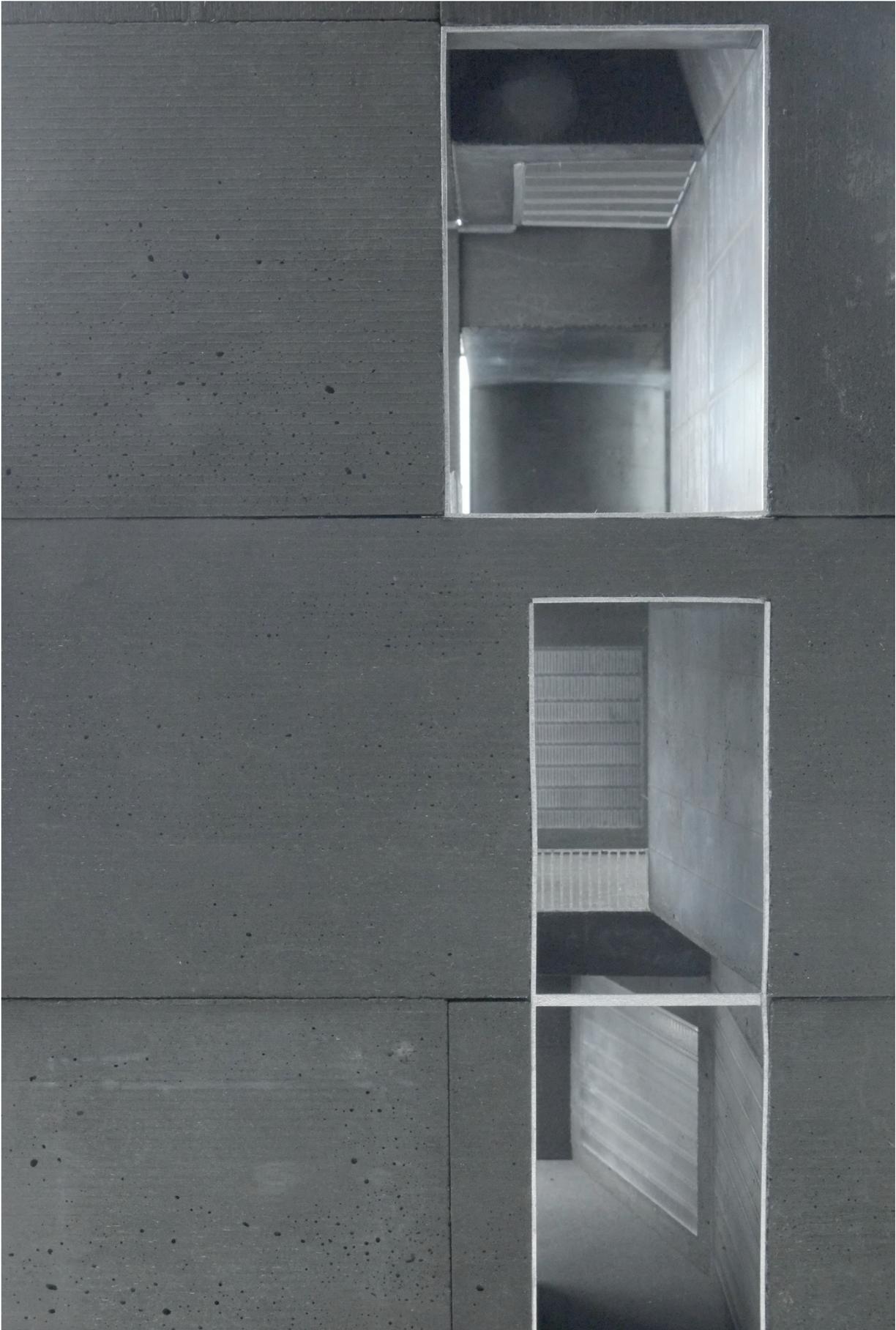
FACADE - NORTH EAST

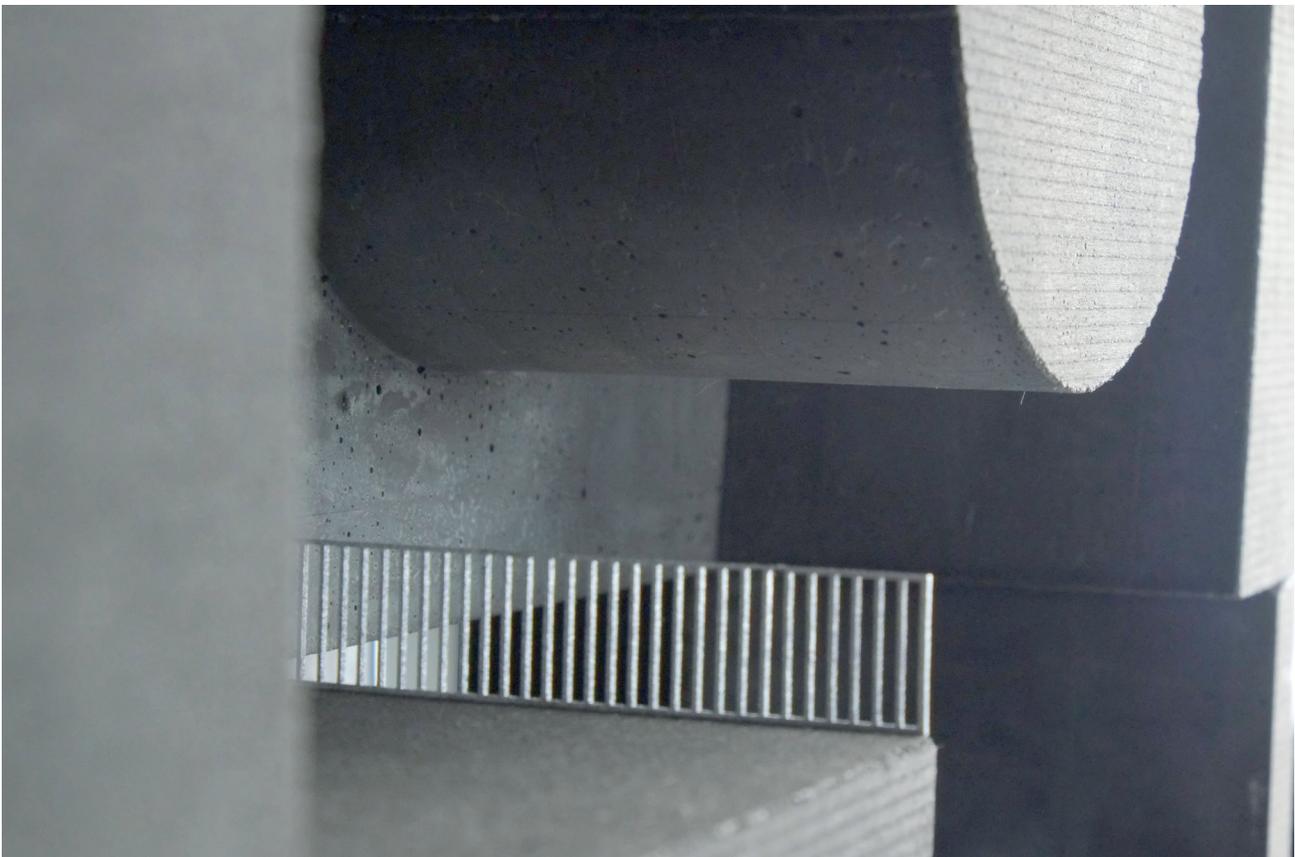


FACADE - NORTH WEST









Plan Analysis

In the drawing "Figure Ground - Character Grid + General Grid" one can see the systematics of the general grid and the character grid, which is represented by the thinner and thicker lines. This analysis makes it possible to see the irregularities of the plan at the same time as its inner logic.

The drawing "Figure Ground - Sections and Plans" shows sections and plans from the proposed library in terms of mass and void. Combining these sections to a speculative plan (Figure Ground - Field) one can see that the edge conditions of each section or plan are not clearly defined. This might suggest that the proposal can be seen as an excerpt of a field, rather than a finite proposal.

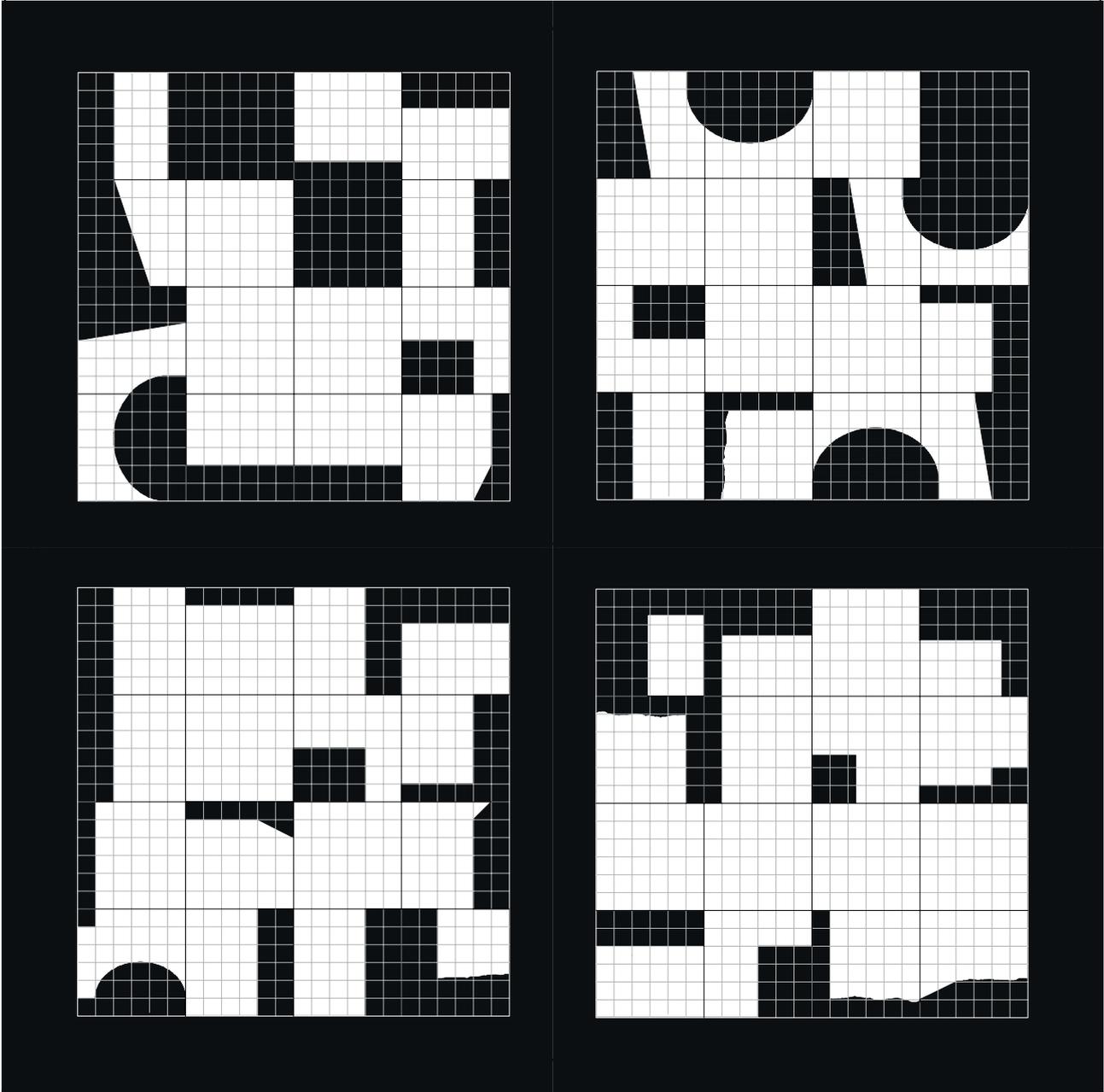


FIGURE GROUND - CHARACTER GRID + GENERAL GRID

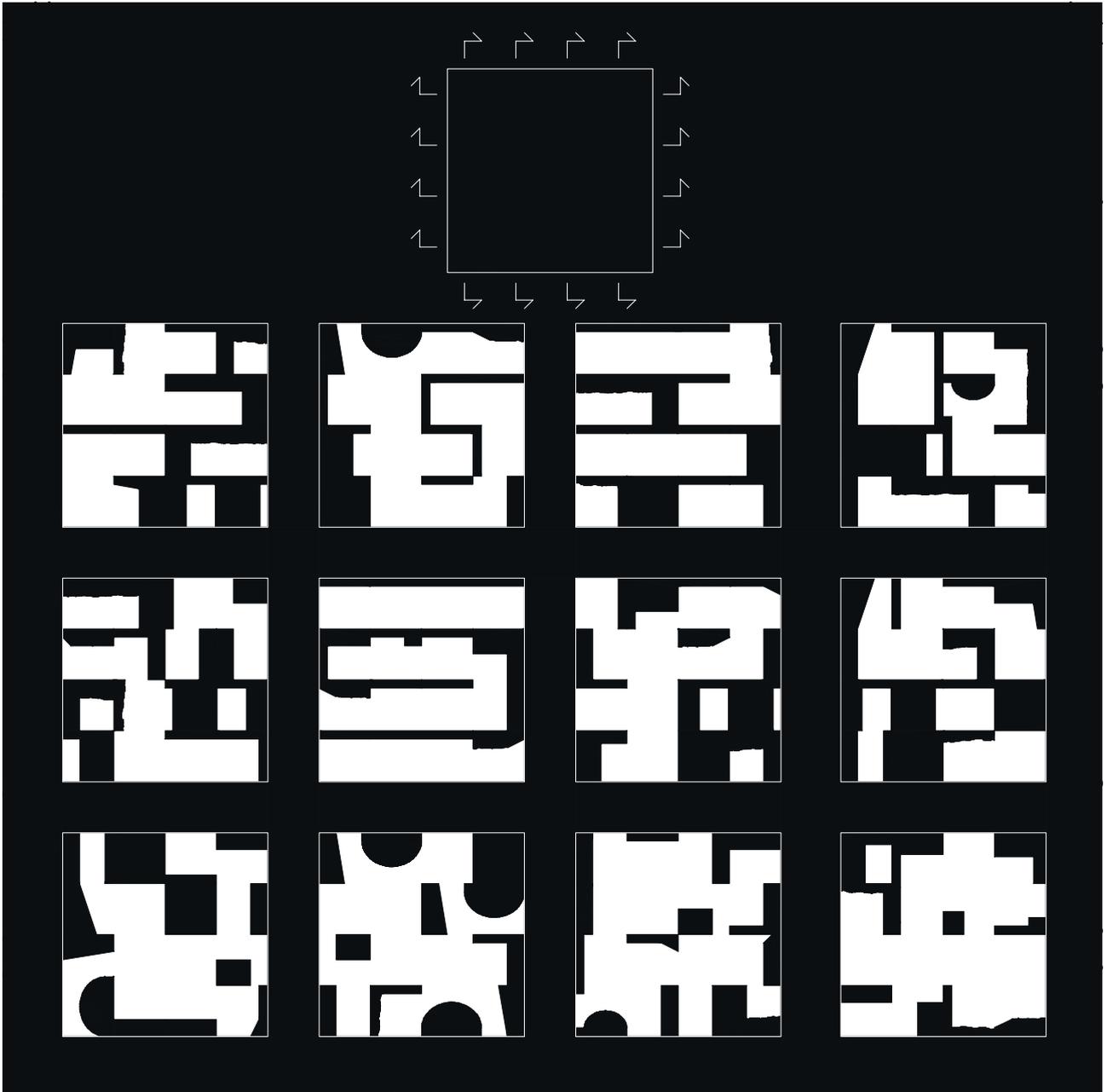


FIGURE GROUND - SECTIONS AND PLANS

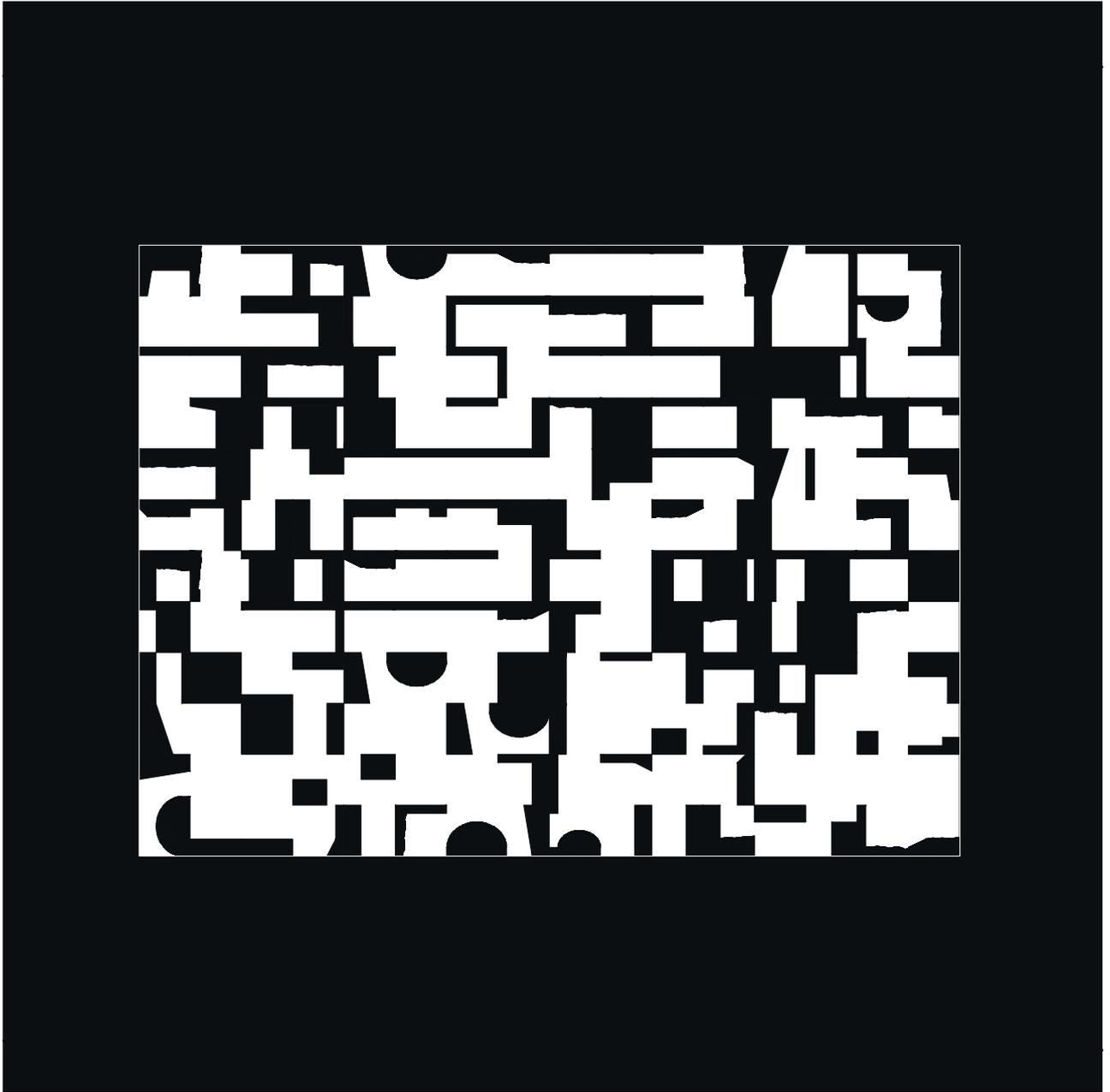


FIGURE GROUND - FIELD

Process: Early Casts

COLLECTED CASTS

The following page shows the collected casts from the preparatory material studies. The experiments are mostly done with concrete casting. They include casting in stretch fabric, sand casting, burning off wooden molds, melting off wax molds, wooden molds, plastic molds, metal molds and form-plywood molds.





SAND CASTING

In these sand cast experiments box molds made from form plywood were filled half ways with sand. Concrete was poured on the sand. The boxes were opened up side down and photographed before and after removal of the sand.



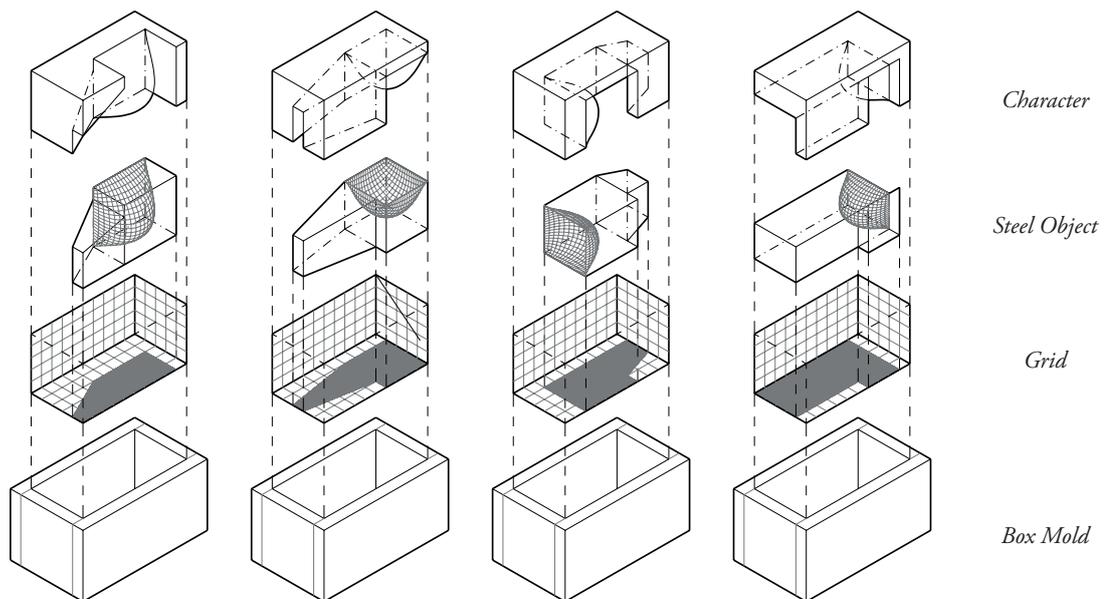
Sand casts (Before removal of the sand)

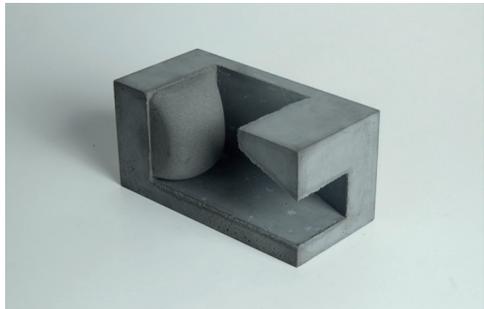
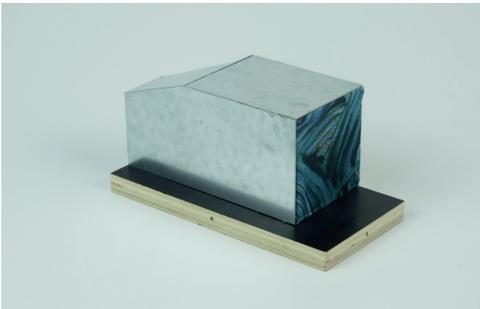
Sand casts

Process: Alphabets + Houses

ALPHABET #1

In the first iteration of the alphabet a number of rules was set to form the molds. The outer measures of the molds were defined by a wooden box of 75 x 75 x 150mm and an internal 3D grid of 15mm. Inside the box mold a steel object was placed, with one surface of stretch fabric. From the steel object a steel trapezoid was connected to one of the box mold's surfaces. The weight of the concrete is putting hydrostatic pressure on the fabric, which makes the concrete take soft forms.

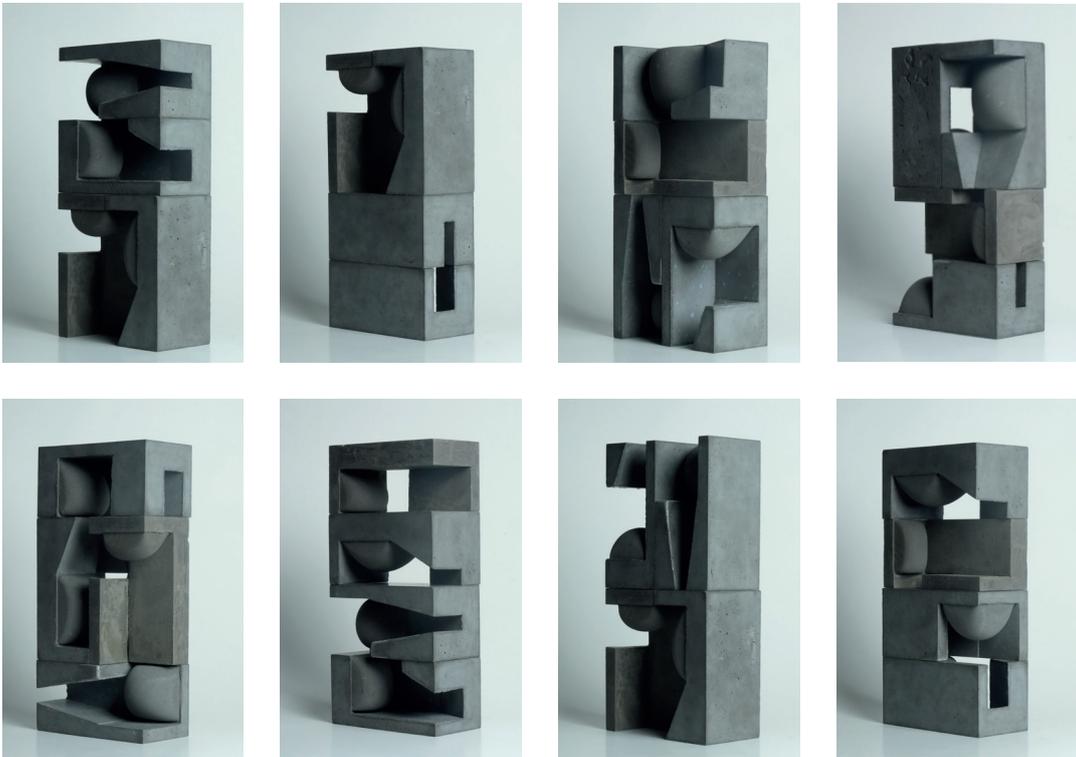




*Steel object
(without box mold)*

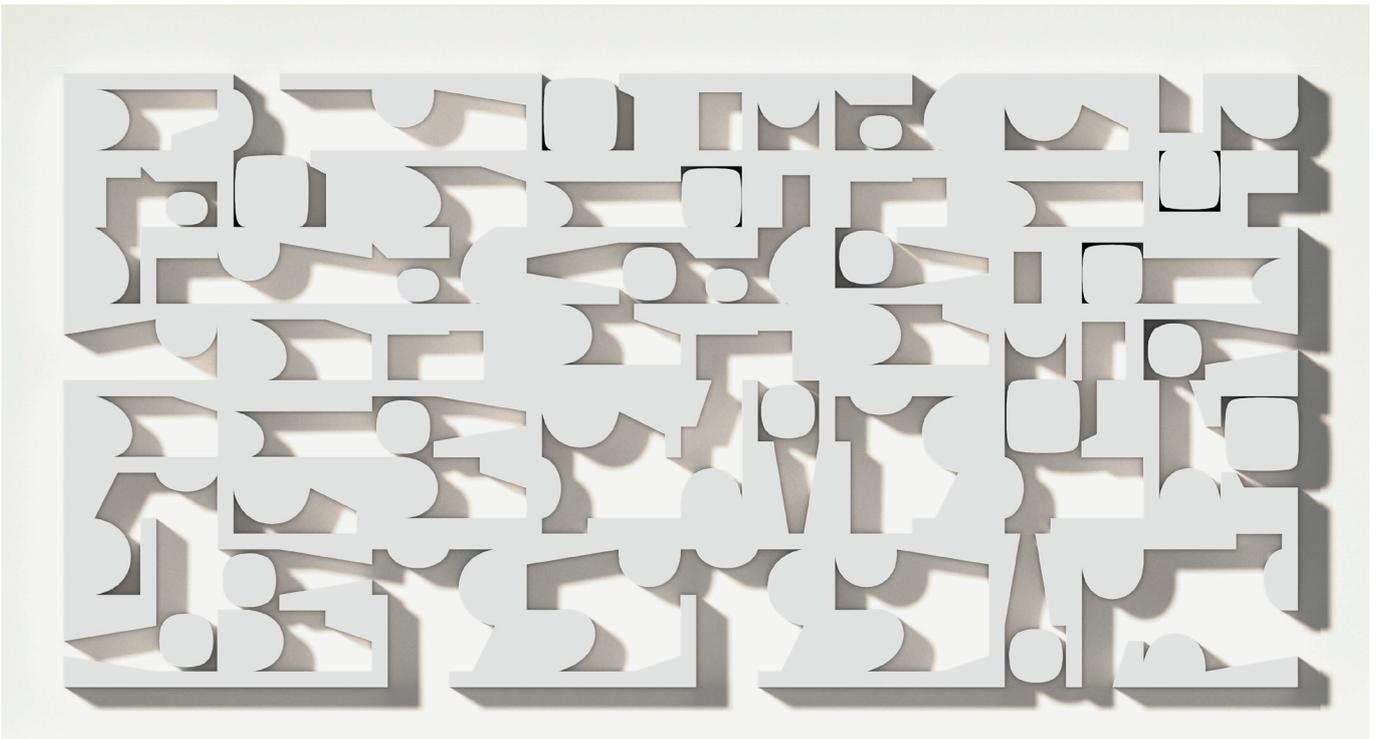
Characters

The pictures show the characters from Alphabet #1 combined to different spatial compositions.



Alphabet #1 - Compositions

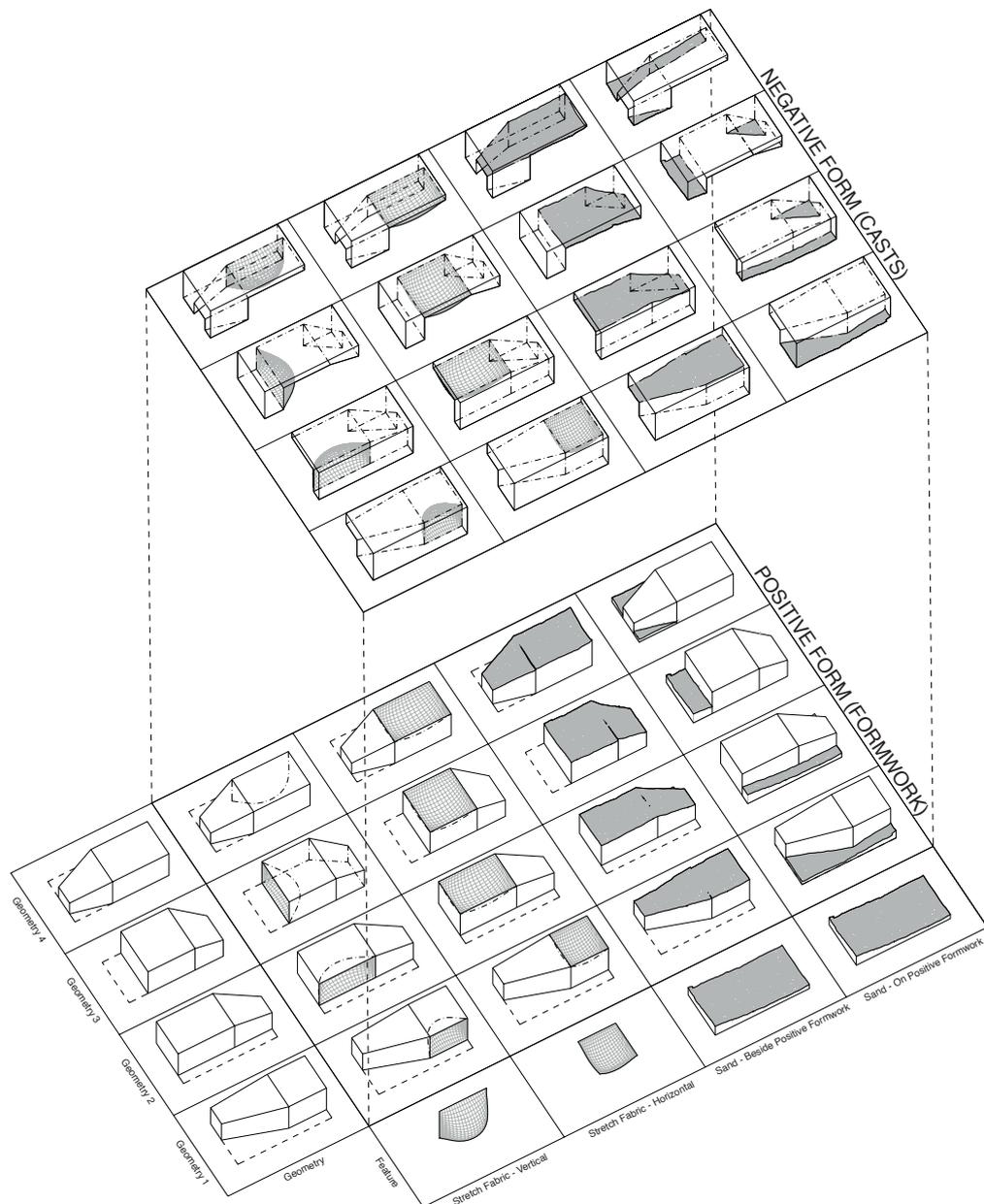
The plan derives from sections through the compositions of Alphabet #1, which were extruded to a plan.



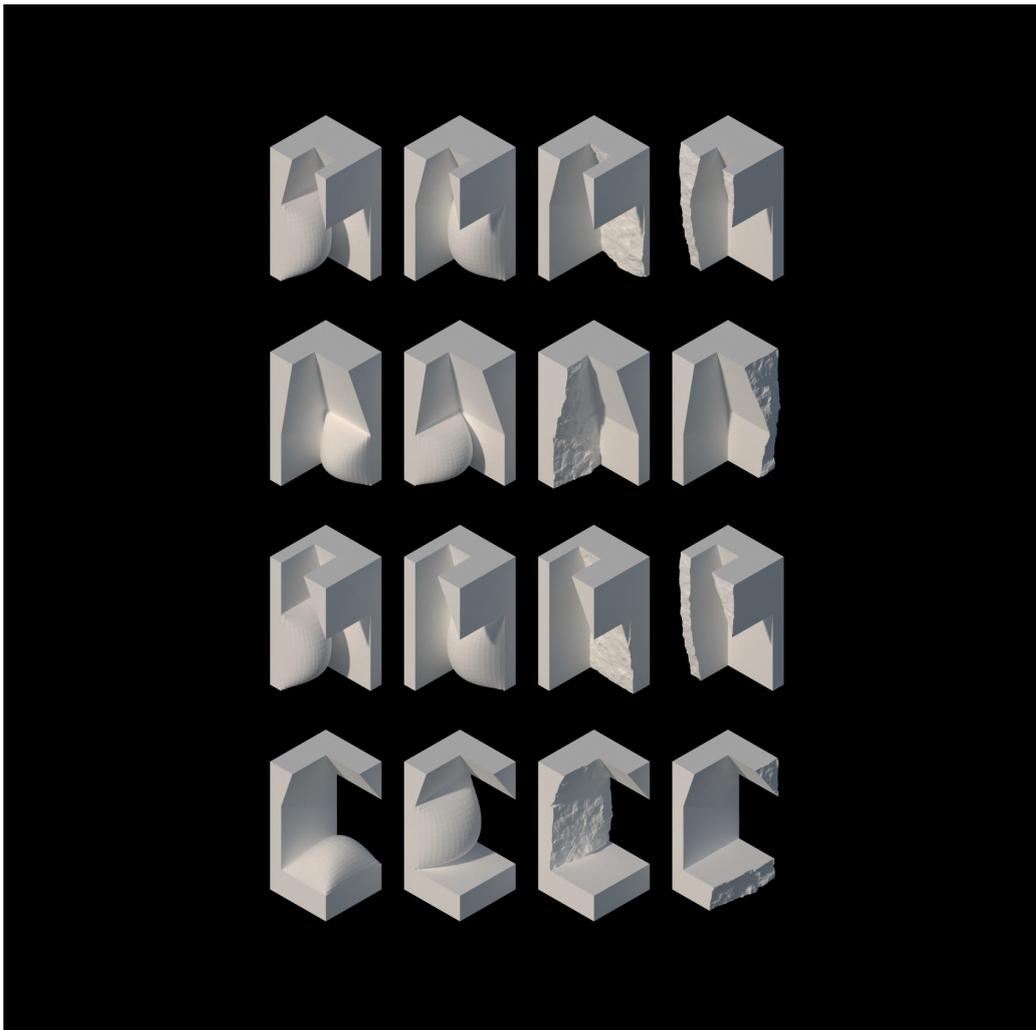
Plan derived from Alphabet #1

ALPHABET #2

The second iteration of the alphabet draws inspiration from the Korean Alphabet, by combination of two parameters in a matrix. On one axis is geometry and on the other a casting feature is added. The result is four different casting features for each geometry.



Alphabet #2 - Casting Diagram



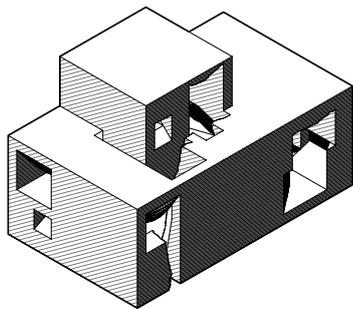
Alphabet #2 - Characters

HOUSE A

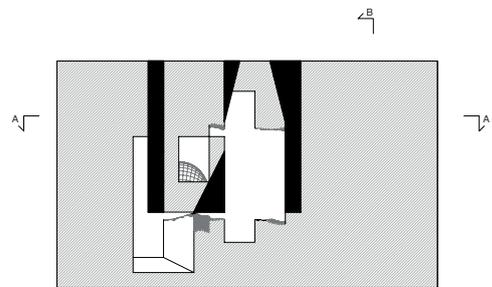
Based on Alphabet #2

House A is a proposal for a building that uses all 16 characters from Alphabet #2. The characters are put together intuitively, mostly edge to edge. The outcome suggests a chaotic and complex interior with a less chaotic outer volume.

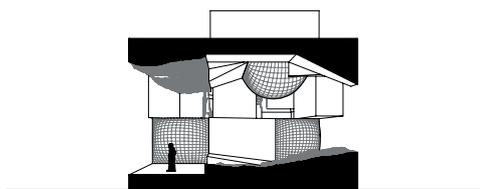
The large number of different characters (8) with fabric cast feature take a lot of attention, especially inside the building. The exterior is less extreme than the interior, since it has more balance between chaos and calmness.



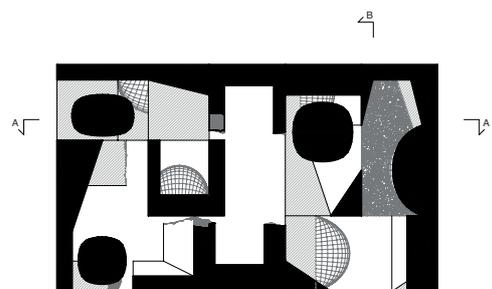
Iso



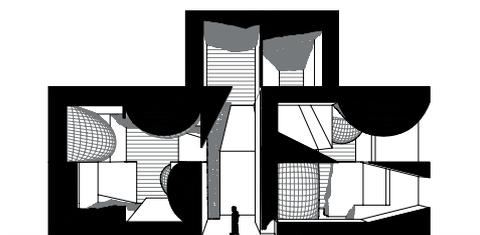
Plan 3



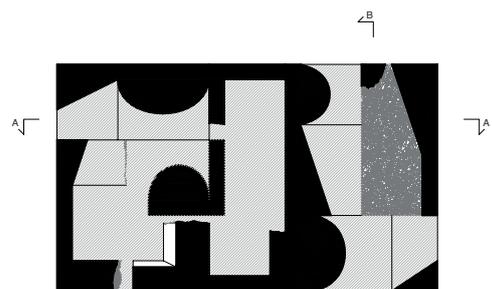
Section B-B



Plan 2



Section A-A

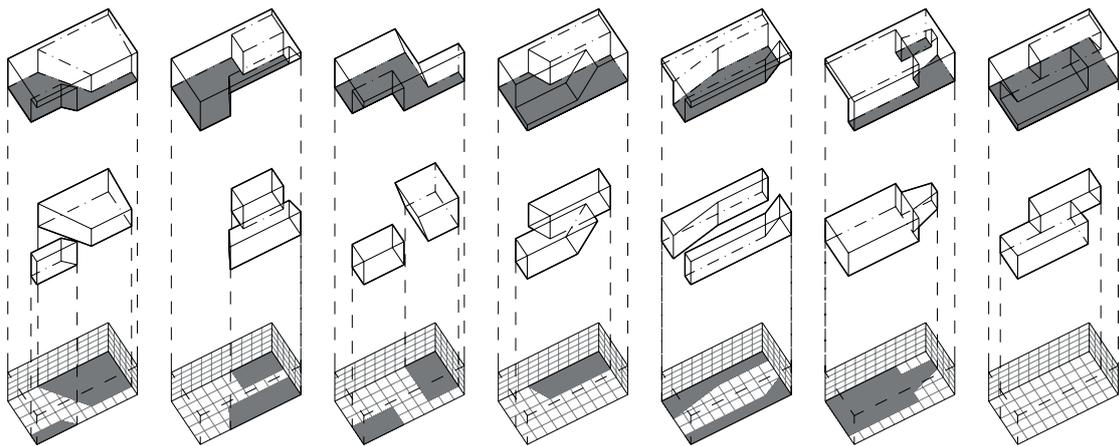


Plan 1

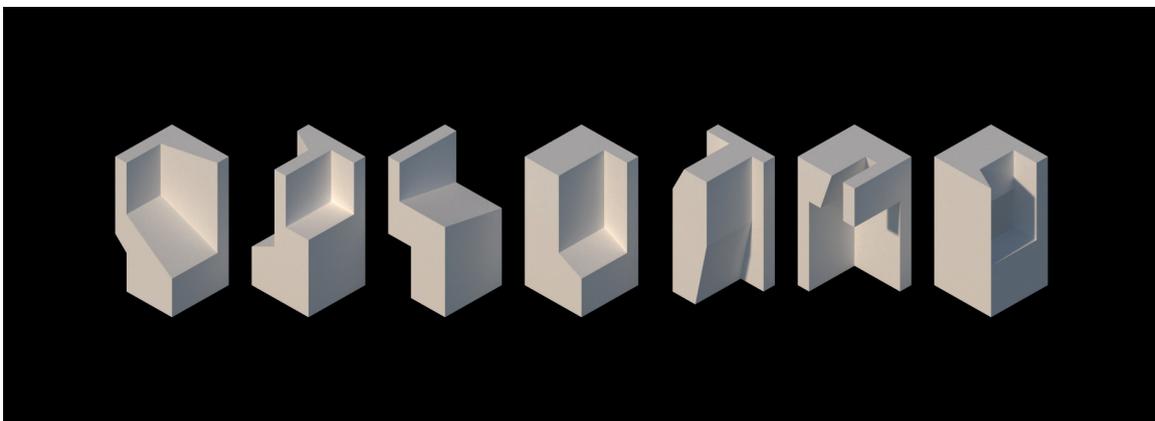
ALPHABET #3

Alphabet #3 is an attempt to introduce different spatial properties to the casts. By "subtracting" with two volumes two separate spaces in some casts and transitions through the characters is made possible through.

No casting features are added.



Alphabet #3 - Casting Diagram

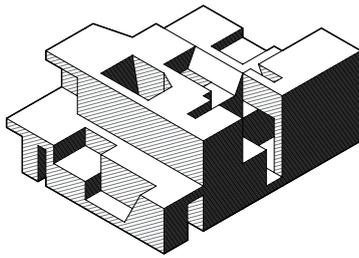


Alphabet #3 - Characters

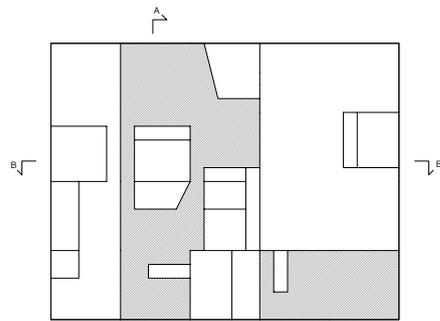
HOUSE B

Based on Alphabet #3

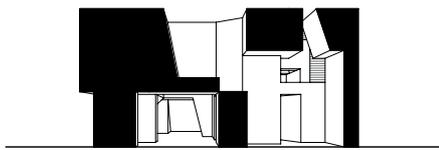
House B uses 2 each of the 7 characters from Alphabet #3. The more complex characters from this alphabet gives a more complex exterior, but also greater possibilities to create a more functional plan, with spatial connections and defined spaces.



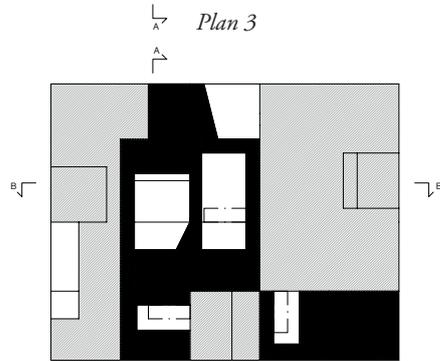
Iso



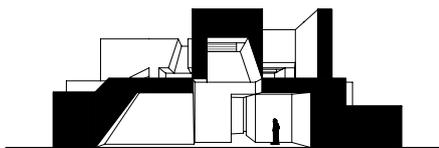
Plan 3



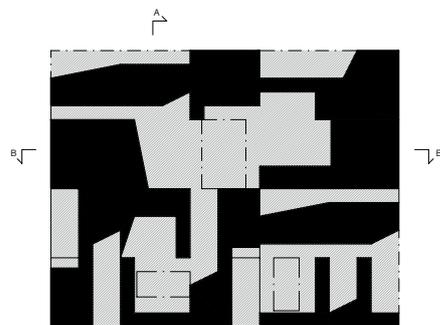
Section A-A



Plan 2



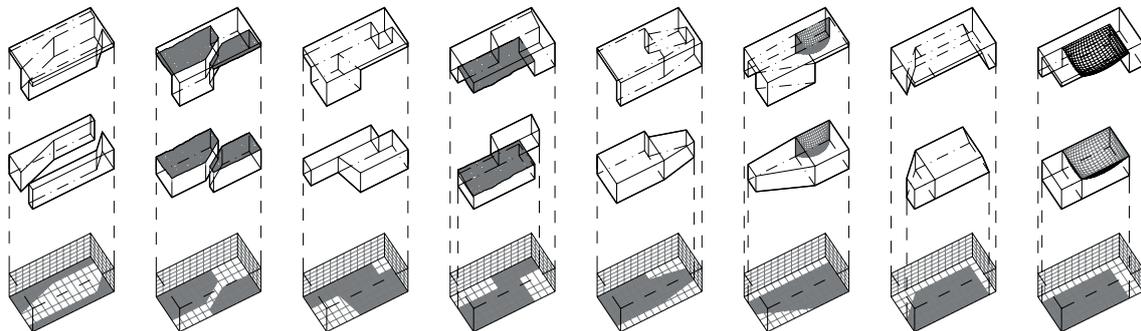
Section B-B



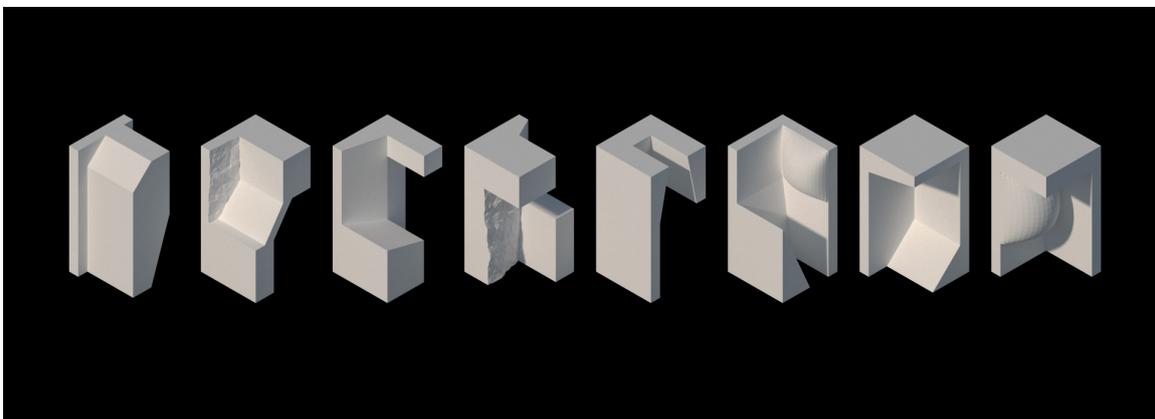
Plan 1

ALPHABET #4

Alphabet #4 is as a merge between Alphabet #2 and Alphabet #3, by using the cast features from Alphabet #2 in combination with the spatial properties from Alphabet #3. Half of the characters have casting features and there is two casts each of the 4 spatial ideas in the alphabet; two separate spaces, two spaces with transition, spaces with opening and single space.



Alphabet #4 - Casting Diagram

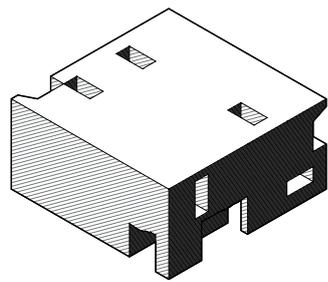


Alphabet #4 - Characters

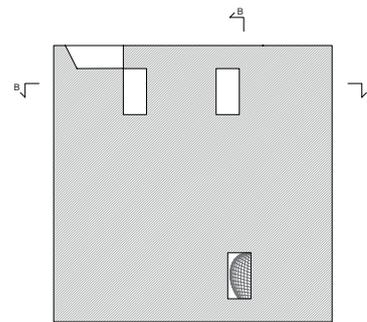
HOUSE C

Based on Alphabet #4

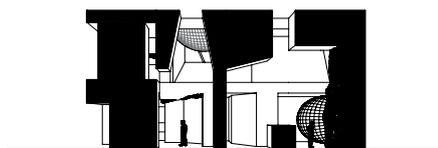
House C uses 2 each of the 8 characters from Alphabet #4. The aim was to create a two storey building with a rather closed outer volume and continuous spatial connections between the interior spaces.



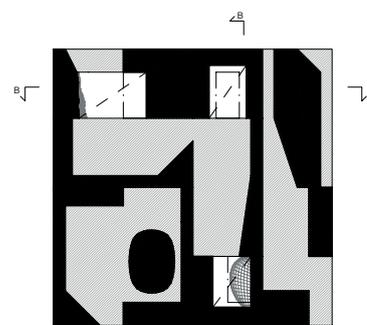
Iso



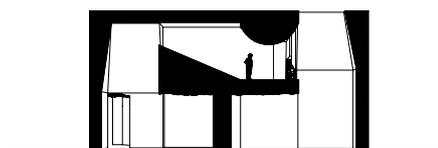
Plan 3



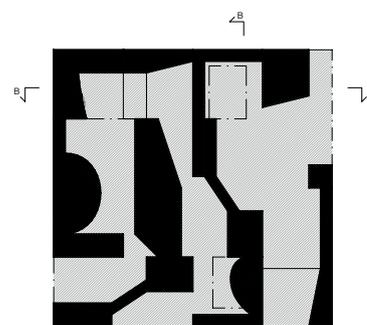
Section A-A



Plan 2



Section B-B

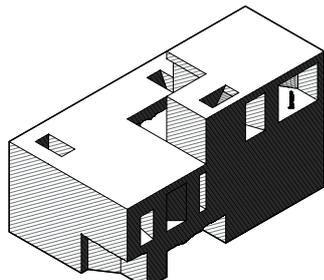


Plan 1

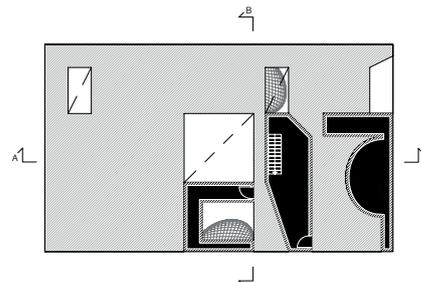
HOUSE E

Based on Alphabet #4

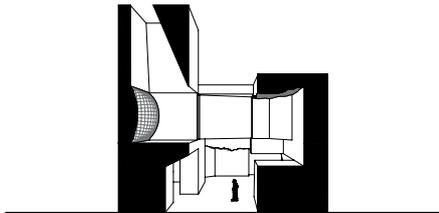
House E uses 2 each of the 8 characters from Alphabet #4. The aim was to create a three storey building with an open plan at first floor, a few mid-sized spaces on second floor, a roof terrace and an open shaft through the middle of the building. In House E the positive spaces are also suggested to contain storage and more enclosed spaces.



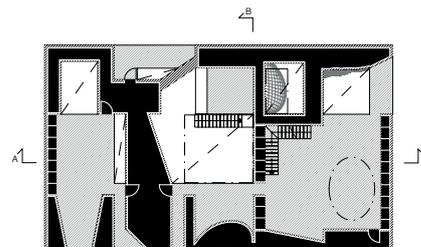
Iso



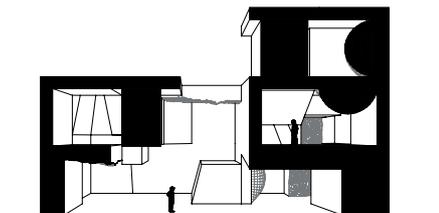
Plan 3



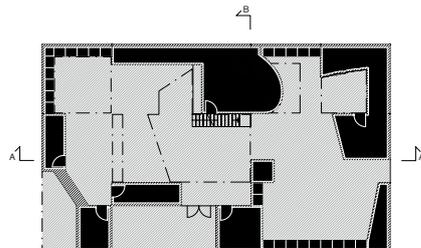
Section A-A



Plan 2

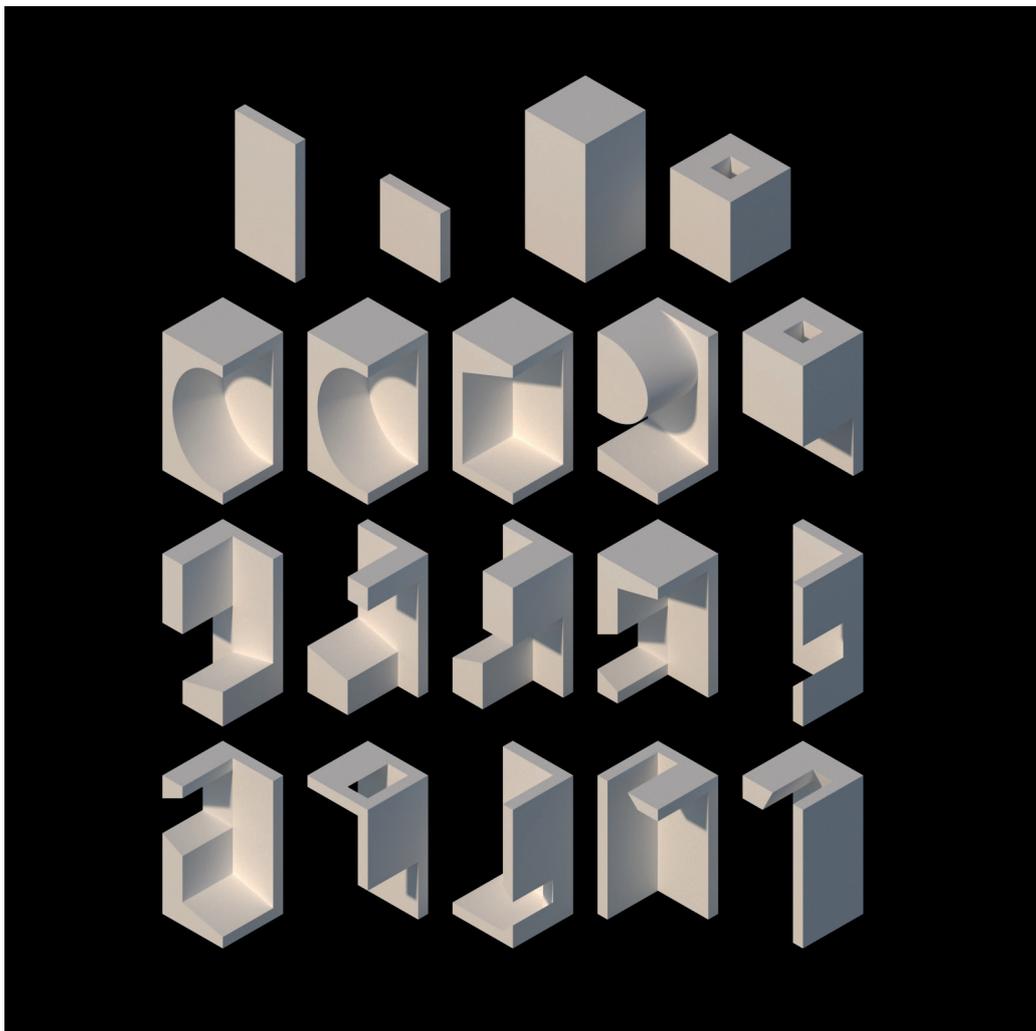


Section B-B



Plan 1

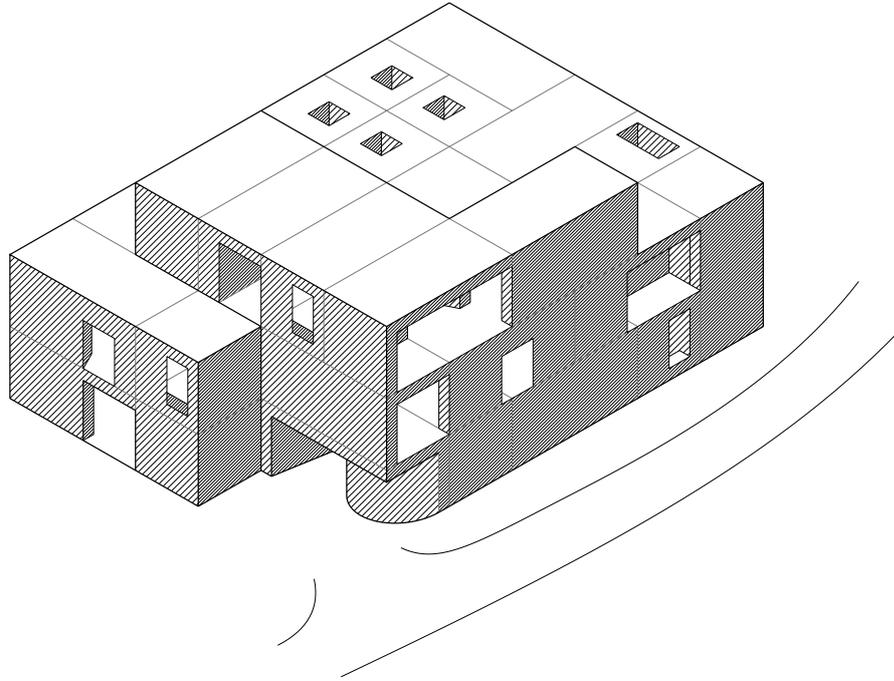
ALPHABET #5



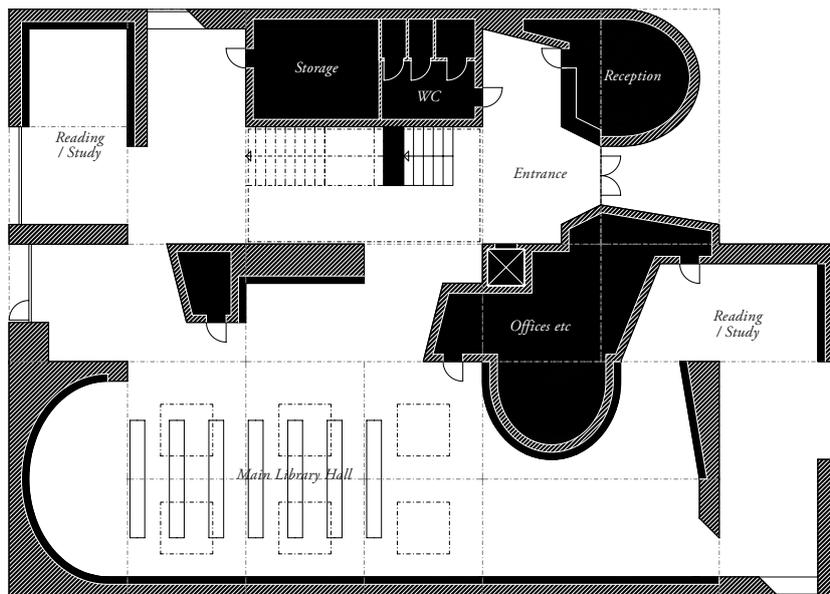
Alphabet #5 - Characters

LIBRARY #1

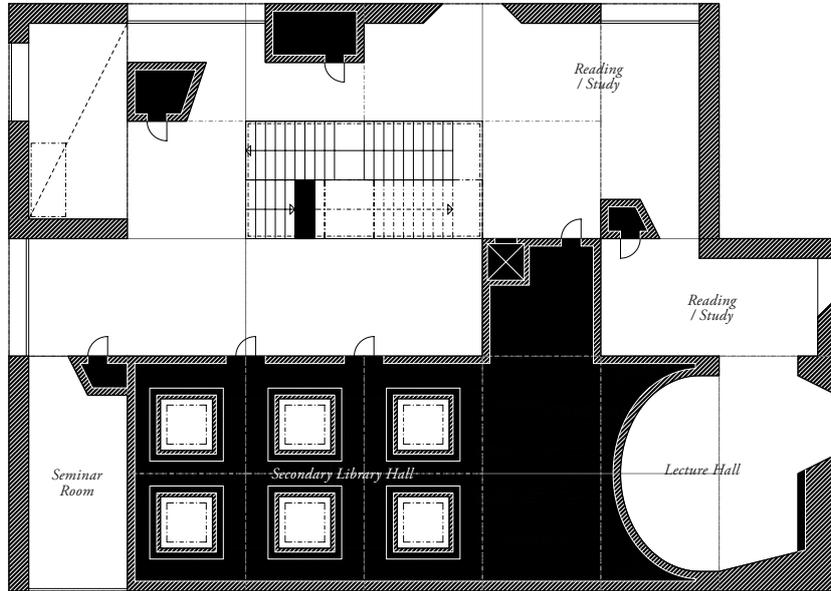
Based on Alphabet #5



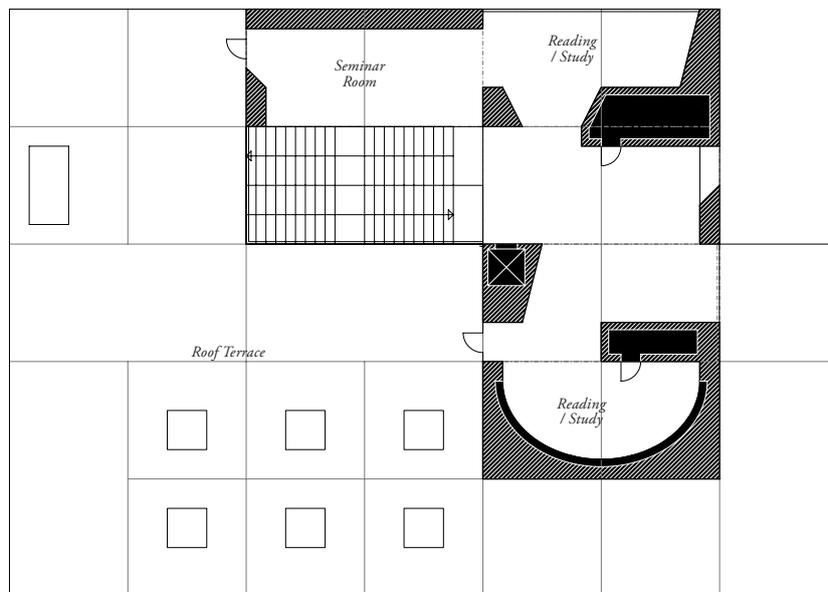
Library #1 - Isometric View



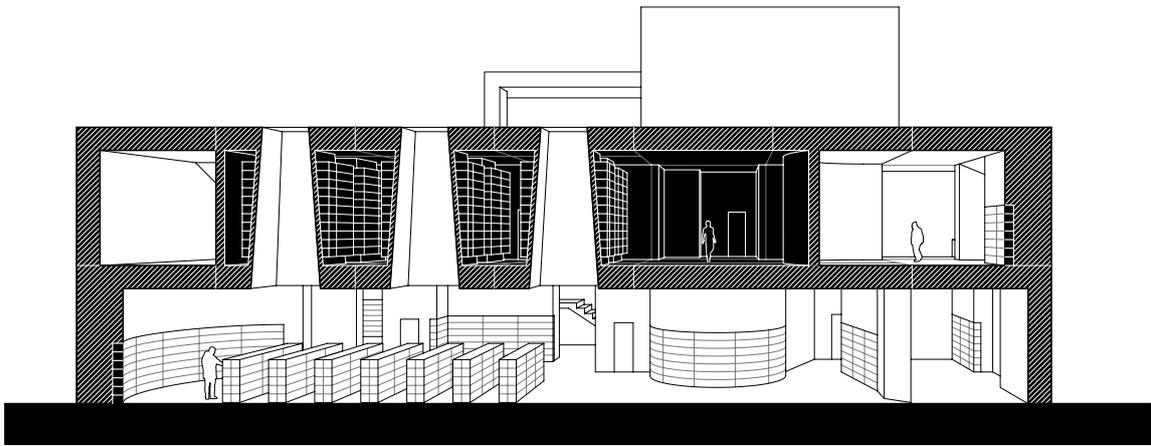
Library #1 - Plan 1



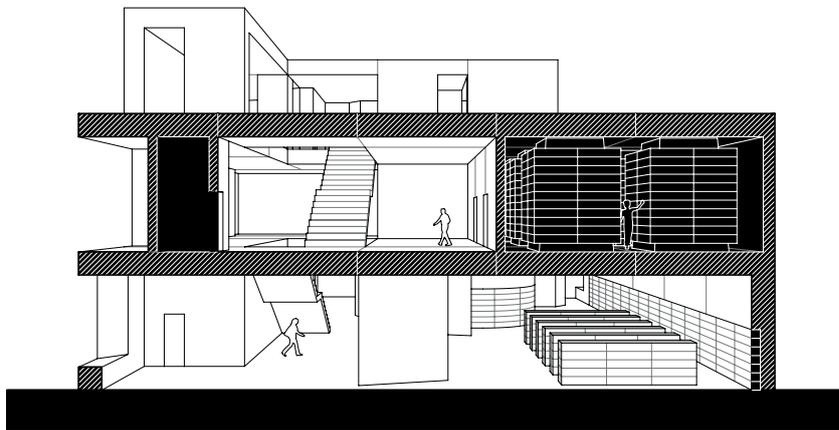
Library #1 - Plan 2



Library #1 - Plan 3



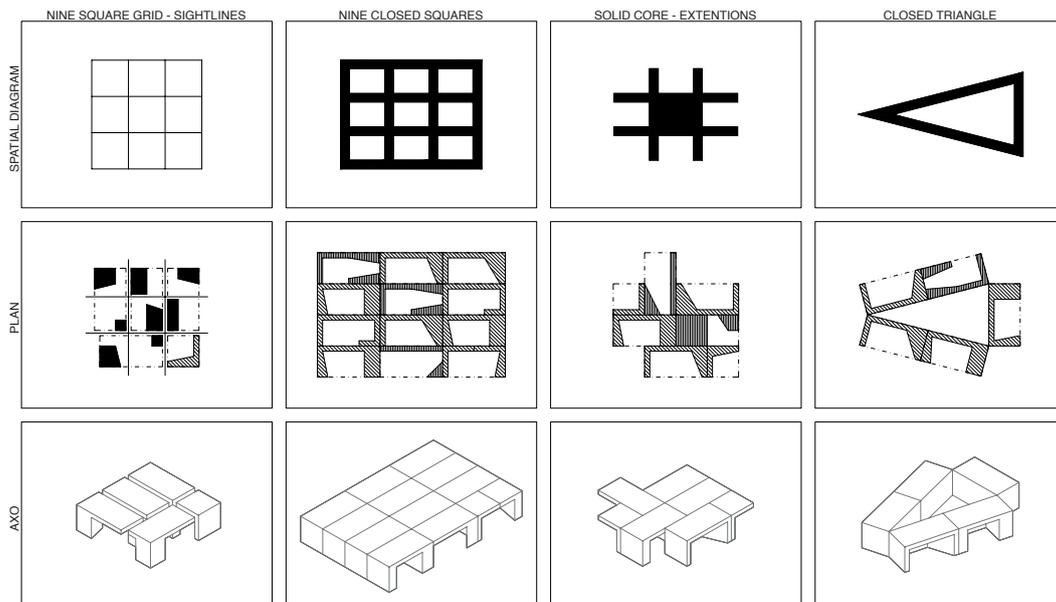
Library #1 - Section A-A

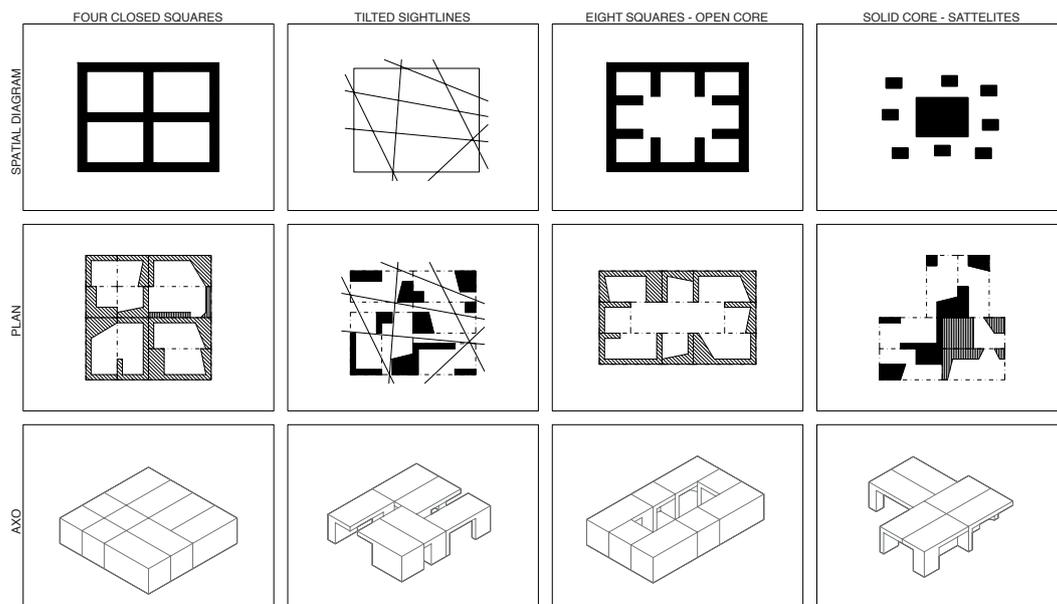
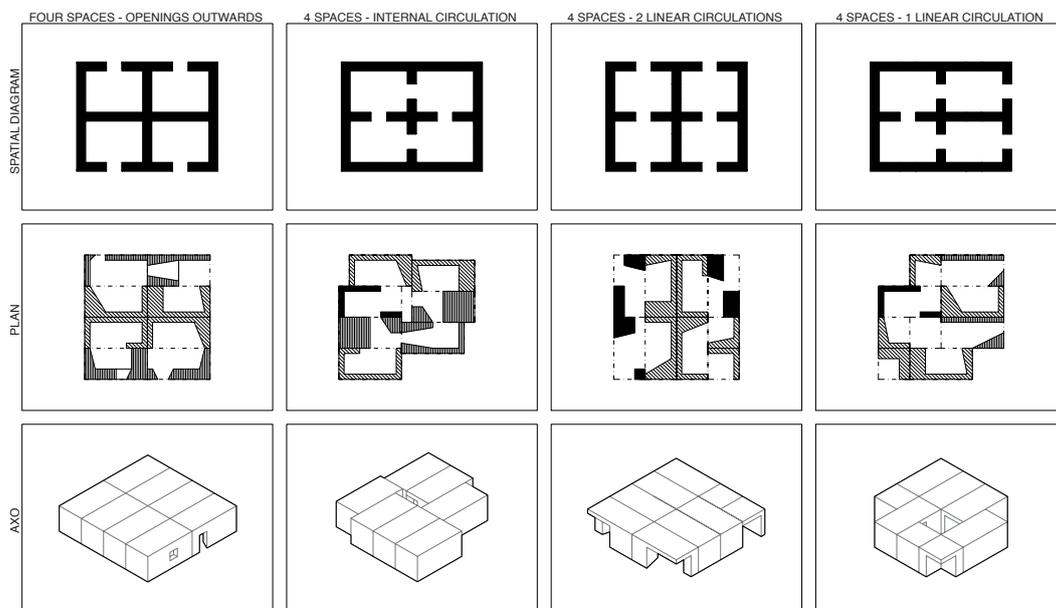


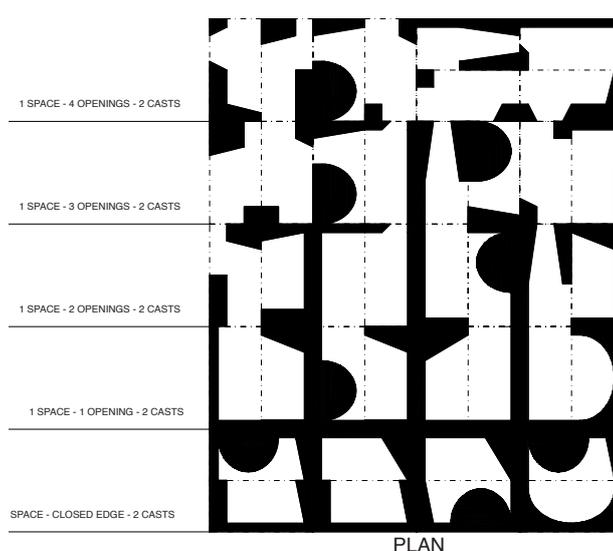
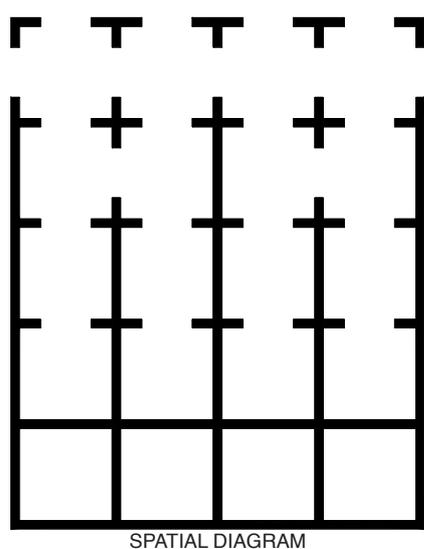
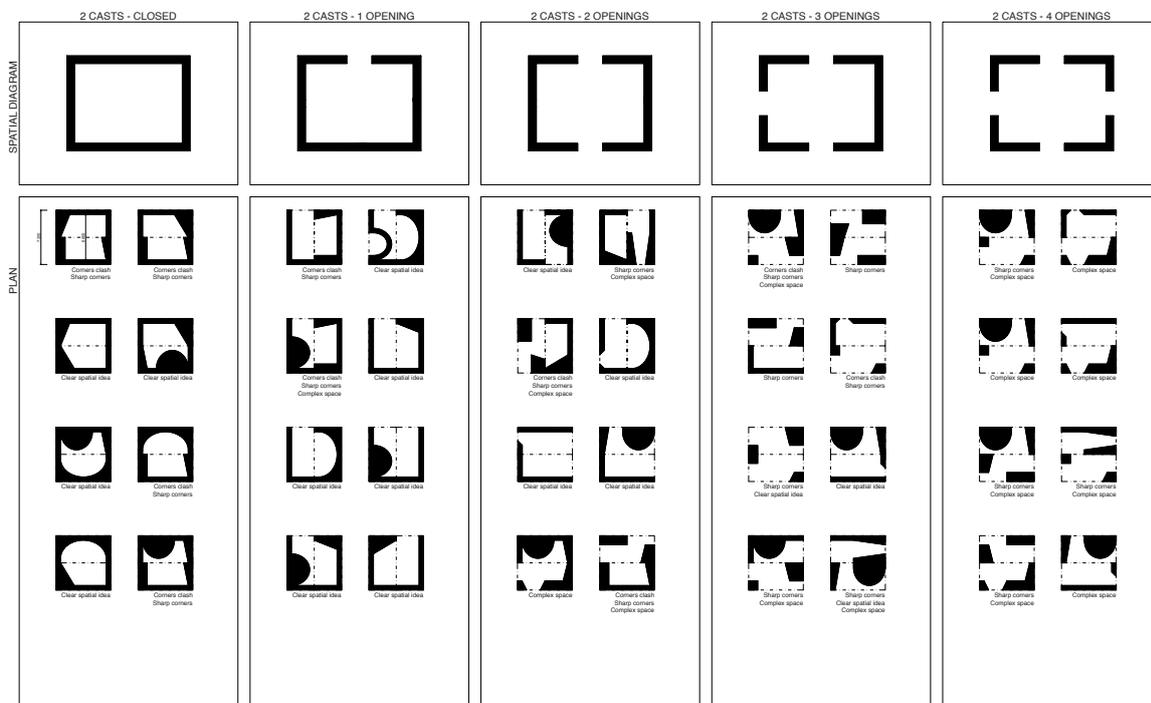
Library #1 - Section B-B

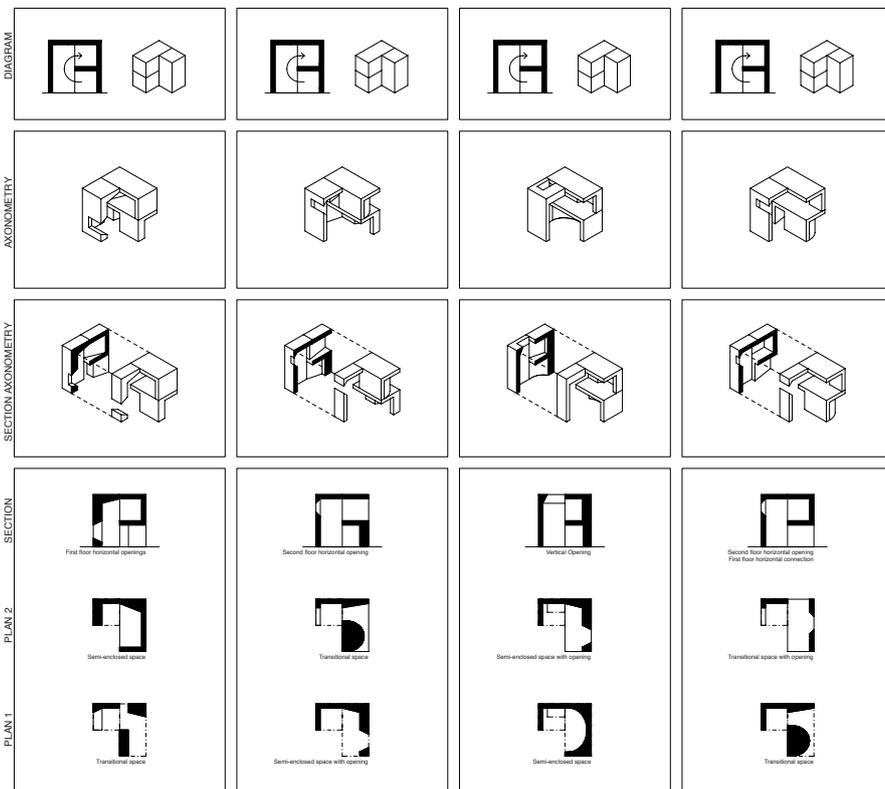
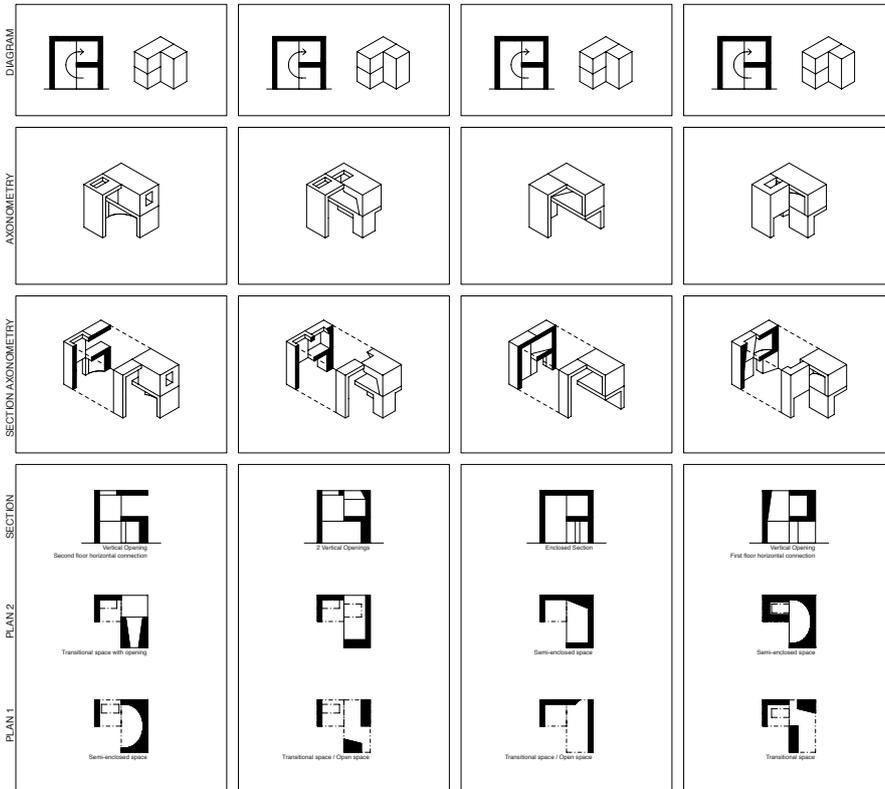
Process: Diagram Studies

The following studies is an attempt to design consciously with an alphabet (Alphabet #5), to evaluate and understand what it can do and what it cannot. The method has been to draw a topological diagram and then try to achieve similar spatial relationships with the alphabet used.

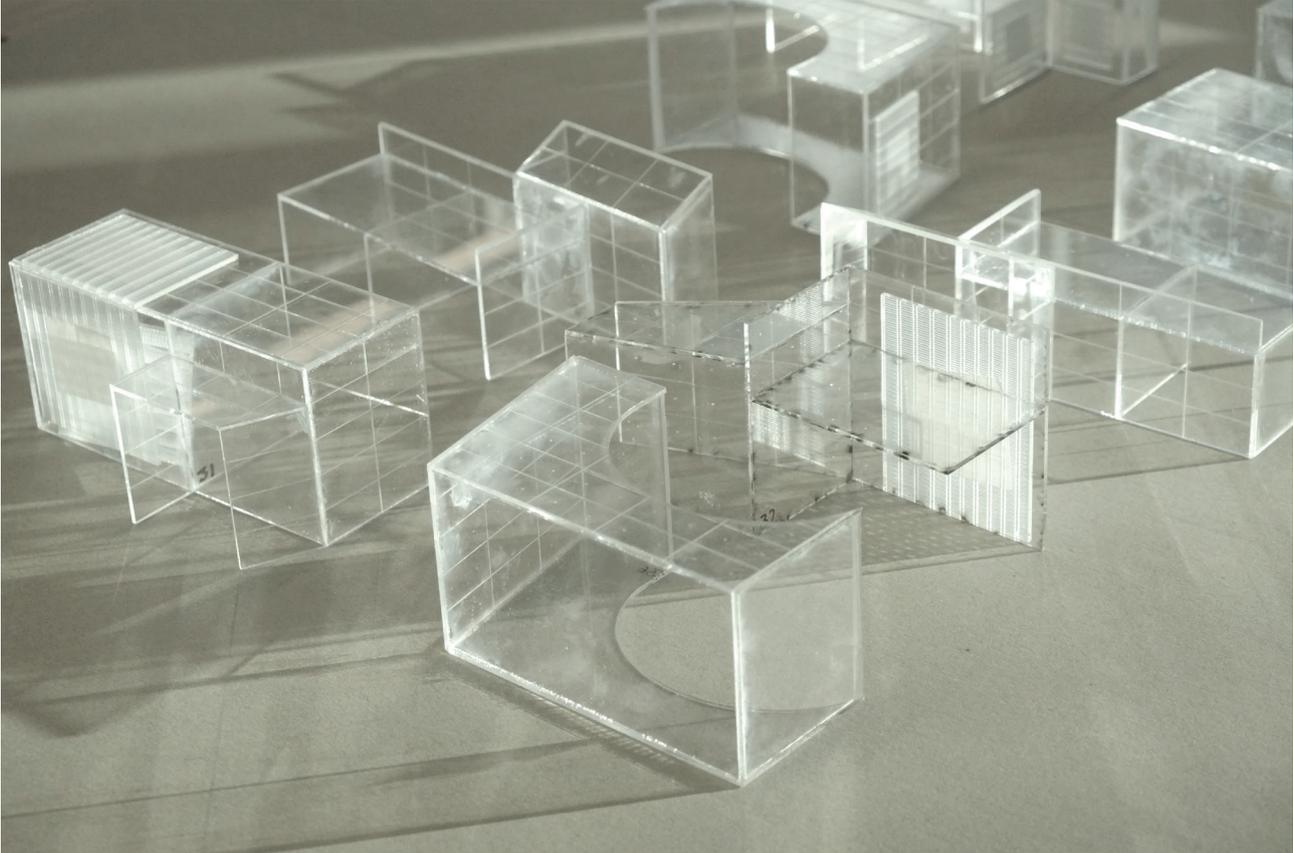


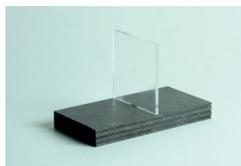






Casting Molds





3D Scans

Early in the process some experiments were done with 3D-scanning of the casts, to maintain the materiality also in the digital realm. Very heavy file sizes and not fully satisfactory scanning results made this strategy non-workable.



Render of 3D-scanned casts



Render of 3D-scanned casts

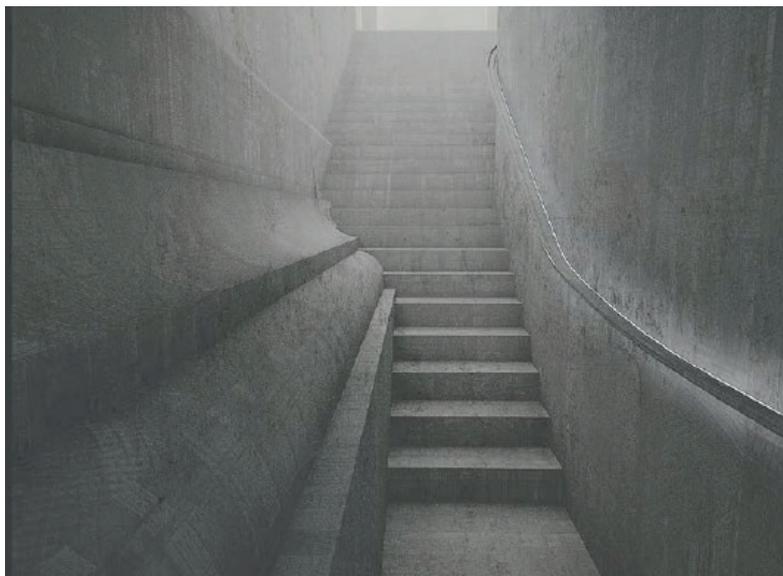
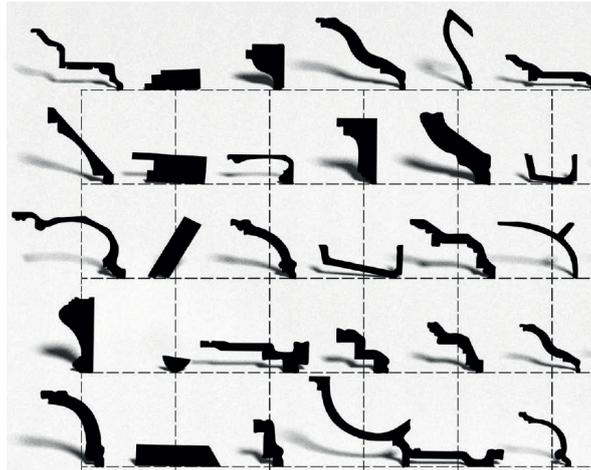


Render of 3D-scanned, scaled and duplicated casts

Reference Projects

REFERENCE #1: LIBRARY OF ECHOES - JOHAN DAHLBERG

In *Library of Echoes*, Johan Dahlberg is building a library of forms based on classical architectural elements downloaded from the internet. This project is relevant to the thesis by its way it is building a library of possible forms that is used to generate a coherent but seemingly illogical proposal.



Library of Echoes, Johan Dahlberg

**REFERENCE #2:
HOUSE NO. 13, HOUSE PARTS COLLECTED - MOS ARCHITECTS**

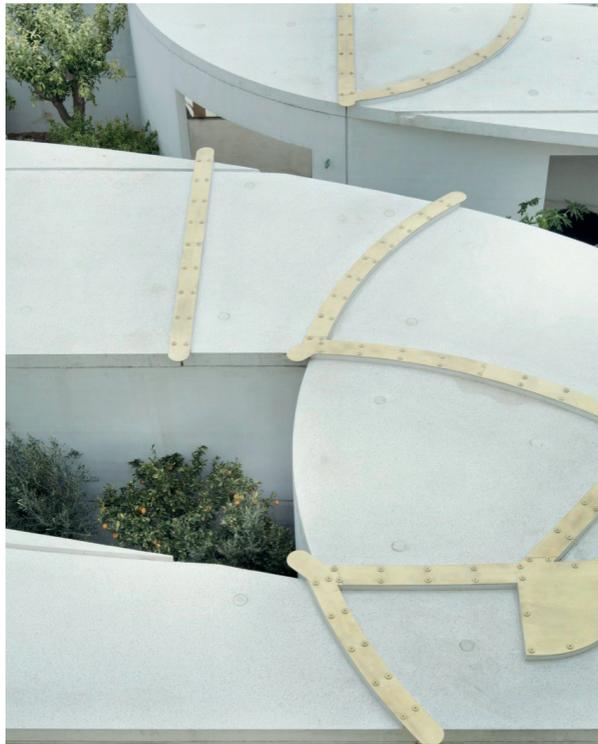
In House No. 13, House Parts Collected, MOS architects are designing several parts of a building, which can be combined in to a complete building in a number of ways, while still containing a common architectural language.



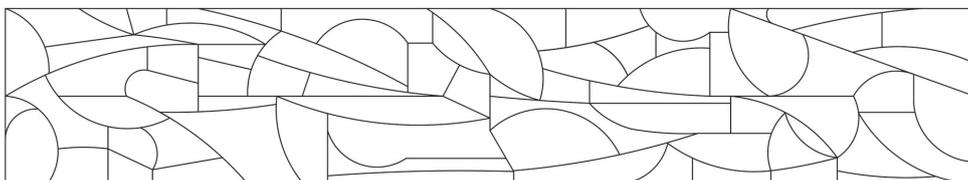
House No. 13, House Parts Collected - MOS Architects

REFERENCE #3: BAHRAIN PAVILION FOR MILAN EXPO - ANNE HOLTROP

An architect that works both in the conceptual and the phenomenological realm is Dutch architect Anne Holtrop. His work are often conceptual to a high degree, as when he is letting a previously drawn pattern define the parts and the syntax between them in his *Bahrain Pavilion for Milan EXPO*. Simultaneously, he is also an architect that works carefully with the crafts and materiality of his projects. This is visible in the project *Batara* (Reference #4).



Bahrain Pavilion, Anne Holtrop



Bahrain Pavilion, Anne Holtrop

REFERENCE #4: BATARA - ANNE HOLTROP

Anne Holtrop's work often departs in something he calls the Material Gesture. He uses Roland Barthe's definition of a gesture as the surplus of an action. If an action aims for a specific result, the gesture is the atmosphere that surrounds it, and the effects produced while not searching for them. The gesture is not the causal logic of an action but rather the character of an action or a material. (Holtrop et al. 2016)

In Batara, he has made large concrete casts in sand where accidental forms from the meeting of the sand and the concrete contradicts square openings and flat surfaces. The sculptural forms that emerge have the unpredictable gesture of the materials as well as a certain conceptual logic to it.



Sand Casting, Batara, Anne Holtrop



Batara, Anne Holtrop

Summary

EXHIBITIONS



Final Seminar



Open Seminar

DISCUSSION

This thesis main theme has been about working with systematics while still keeping an intuitive mode of designing. The balance between these two states is something that has been a key factor to the process, where tiny shifts in this balance can make a huge difference to the outcome.

One thing about systematization that has become clear during the thesis project is that once the rules are set the design process can be rather fluid. It is then possible to do a large number of iterations within the same set of rules. Working according to a set of rules is also an efficient way of getting away from the limits of imagination, since it often provides results that would not come up otherwise. This forces designer in to unknown territory, where invention is necessary.

The way the more intuitive parts are relating to the systematics, and where to switch in between the two modes, is of great importance. In this project a reoccurring question has been whether to stick to the rules or not. Is there any point of being “true” to the system? Is the systematics weaker if it has exceptions? If not, when is it suitable to break the rules? If they are repeatedly broken it eventually reaches the point where the system is not a system anymore, and when it might not maintain the strengths of a system. On the other hand, it is often while breaking the rules the system comes alive and becomes really interesting.

This balancing between two opposites has been present in a number of themes relating to the thesis. The conceptual and the phenomenological is one. Top-down and bottom-up is another. In these different themes the ability to move with ease in between the opposite modes is something that has proven to be crucial for a successful process.

The system created and investigated this thesis, the alphabet, has had both disadvantages and advantages. A disadvantage is the lack of flexibility for precise and directed design, while working with predefined units of such a large scale. A solution to this, which instead might rise other questions, would be to regard the alphabet as a form generating tool for early phases, and that the geometry could be remodelled in a subsequent phase. An advantage is the large variety that is possible to create that still has a certain coherence. An advantage particularly with calling it an alphabet, has been that it has affected the way to look at the system. An alphabet suggests a limit to the number of units. It also suggests that they have similar logic and characteristics, but that they also have certain differences. By calling the units characters, instead of example-wise modules, they are defined by their expression and gesture, rather than their function.

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