

NUANCE

Exploring Regional Characteristics



Master Thesis Spring 2020
Examiner: Kengo Skorick
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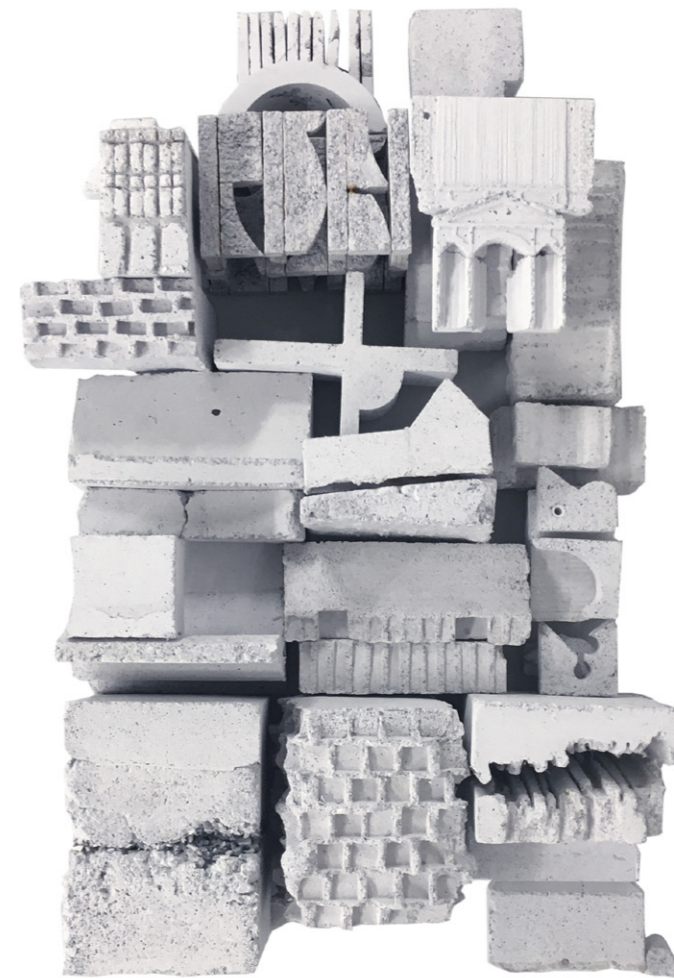
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ABSTRACT

This thesis is a search for regional nuances in Bohuslän, through explorations on carefully chosen references illustrated with mussel-based concrete. The out-come of the method and the material studies are manifested in a small-scaled factory where further experiments and explorations can be made in and on the material.

Bohuslän has a long history of harvesting the sea and the landscape that surrounds it. The vernacular architecture has been prominent through the history in the region, where utilizing the nearby environment has been essential. The site in this thesis, Klätta, is located in northern Bohuslän, there has been an industry for sea mussels on the site that has now closed due to outsourcing. Left on the site is an abandoned building and piles of mussel shells laying on the ground. The thesis strived to use the material and its characteristics as an aesthetic quality in a conversation between material and shape. The thesis take departure from critical regionalism and questions the usage of the modern accessibility of visual information and the effect it has on cultural identity.

It is developed through several interpretations of buildings and building components from Bohuslän, chosen for their representative qualities of elements that together defines a traditional architectural archetype of Bohuslän. The references used in this project are deliberately taken before the modernism movement because of its global intent. The chosen references do have global influences but are made with a local intent, therefore can be used as argument for a regional character.

The thesis uses a filtering approach, where the input (images) are interpreted and transformed by methods and materiality to an output that is more coherent with current techniques and/or design ideals. This approach is used both as a process for a deeper exploration and understanding of the images but also as a way of not using the references as a simple “copy & paste” technique. The thesis’ main emphasis is on the design methods used to reinterpret local references.

Keywords: Critical regionalism, paraphrase, mussel, concrete, references, re-interpretations, Bohuslän

MAIN QUESTIONS

- How does iterations of regional specific references effect the end design?
- How can one use an abstraction of a reference and not lose the intent of the original?
- How can a naturally occurring materials from a site be made into a material?
- What aesthetic qualities in mussel-concrete can be used as input to the design?

DELIMITATIONS

This thesis’s approach on mussel concrete is mainly from an aesthetic point of view. Meaning that its structural features is briefly investigated as support for argument but not thoroughly researched. The same goes for its economical and sustainable properties.

The projects industrial program is to be seen as a experimental workshop and therefore are not meant to be economical viable nor reach the standards of a conventional concrete plant.

The chosen reference images are not to be seen as definite but as representative samples of architecture in Bohuslän.

One of the key elements of critical regionalism is to reinterpret traditional building elements, but one should also deliberately include sources from other cultures. This thesis argues that a person of today has enough international influences that a personal, internal process will provide enough global tendencies to a project. Therefore, external references as a part of the method have not been deemed important for the project.

The thesis is based in a western context and westernized discourse in regards to regionalism and critical regionalism today.

BACKGROUND & THEORY

Today, information and communication are two important pillars of the modern globalized society. These two phenomena made a remarkable portion of the world capable of accessing any kind of visual information (Crudeli, 2018).

The architectural profession has a history and tradition of traveling all over the world to find architectural inspiration to bring home. With the accessibility of affordable transportation of today, to an even greater extent, tours like “The Grand Tour of Europe“ are being made. With platforms like Google, Pinterest or Archdaily one is bombarded with global inspiration at a daily basis. One could argue that it’s more often that the references that are being used tend to be taken out of context and forced into alien situations; searching for “house” can put you on the shores of Greece or in the north-east coast of Canada. Together they might be an inspiration for a house in Madrid. This procedure can be helpful but constantly taking projects out of its local context may also mean that the project loses some aspects of identity.

The usage of words like “regional” and “identity” are frequently used in conservative contexts where the objective is to exclude other cultures in order to obtain one’s own. When Kenneth Frampton described critical regionalism, he took his point of departure in a quote by Paul Ricoeur that addresses the conflict between being modern and at the same time being able to return to one’s roots. This is also the basis for critical regionalism, trying to bridge the gap backward in time without being devoured by it. This incorporates a complicated contradiction between highlighting and strengthening tradition and the region and, on the other hand, absorbing world culture and allowing oneself to develop and be inspired by other cultures to avoid stagnation and even regression (Grillner, 1994).

The easy access to distant information allows people to have a different and wider awareness of themselves and the territory that they belong to (Crudeli, 2018). In the age of communication, a perimeter that has a specific cultural identity that expresses place specific architectural features are hard to define. It does however, also give the opportunity to be part of a global discourse but at the same time be specific to the place one is situated. Meaning that there is a possibility to benefit from both world wide information and place specific tendencies (Frampton, 2018).

The point of departure in this thesis is critical regionalism, where the concept of regionalism indicate an approach to design giving priority to the identity of the particular rather than to universal dogmas.

One of the key elements of critical regionalism is to reinterpret traditional building elements, Grillner argues that when doing interpretation of traditional building elements, one must account for the originality, not making interpretations of objects that already has been interpreted to prevent a circle-argument of design (Grillner, 1994). Using building components, such as ornaments, includes an understanding that they already are an interpretation in the first place and a syntax of iterations. Therefore, this thesis deals with references as they are, with their whimsicality and intentions intact. It also does not reject the whimsical individualism and ornamentation of postmodern architecture but does strive to counter the placelessness and lack of identity of the international style by being inspired by local notions and precedents.

LOCATION & MATERIALITY

The site in this thesis, Klätta, is located in the northern Bohuslän, where there has been an industry for mussels that is now closed due to outsourcing. Klätta is part of a small peninsula and is mostly an area for summer residences with small amount of tourism oriented businesses. This thesis proposed a renewal of the old mussel industry, but not as it once was. A new industrial building that deals primarily with the surplus of shells from the meat harvesting of mussels.

Bohuslän has a long history of harvesting the sea and the landscape that surrounds it. From using herring oil to protect buildings to using rocks as foundations. The vernacular architecture has been prominent through the history in the region, where utilizing the nearby setting has been essential.

Left on the site is an deserted 80’s building with piles of mussel shells laying on the ground. Although the factory in Klätta is shut down there is a growing industry of farmed mussels in Bohuslän because of the growing demand from restaurants but also as a part of cleaning the waters from pollution. One small mussel-bar in Ljungskile has over seven tons of shells as waste per season and the biggest company for farmed mussel in Bohuslän, Scanfjord, have a growing problem with their waste of shells.

Seashells has high CaO content and gets reactive when heated, thus making it possible as a partial substitute for cement as binder in concrete (Procedia Engineering, 2018). The studies that has been done in the subject surrounds mainly about the physical properties, and benefits from the material. This thesis strive to use the material and its characteristics as a aesthetic quality in a conversation between material and shape. Replacing not the binder but the aggregate with the intent of several expression that can be used for various situations.



PROGRAM

The machines and utilities in our design proposal are fitted for a smaller scale of production with the purpose of being an experimental-workshop where mussel-concrete can be tested for different design and materiality approaches.

The building itself is a reflection and a paraphrase of the thesis work, process of washing, crushing, heating, mixing and casting is represented in the building. There is also accommodations in the building with the intent of having workshops with artists, designers or enthusiasts that can visit, making it a destination by its own.

We identified five types of main usage of the building: artists, visitors, guided tours and workers. A flowchart was made of every type for further understanding of the connection between the different rooms within the building. Artists have the opportunity for a longer stay with a accessibility to rooms making it easier to have a long-term project, similar to the concept artists in residence.

PROGRAM

| AREA: | SIZE: | LEVELS: |
|-------|-------|---------|
|-------|-------|---------|

WORKSHOP

| | | |
|------------------|--------------------|-----|
| Cast room | 420 m ² | 1-2 |
| Office | 130 m ² | 1 |
| Workshop | 330 m ² | 1-2 |
| Outdoor workshop | 350 m ² | 1 |
| Water collection | 65 m ² | - |

| | |
|-----------|---------------------|
| IN TOTAL: | 1295 m ² |
|-----------|---------------------|

REPRESENTATION

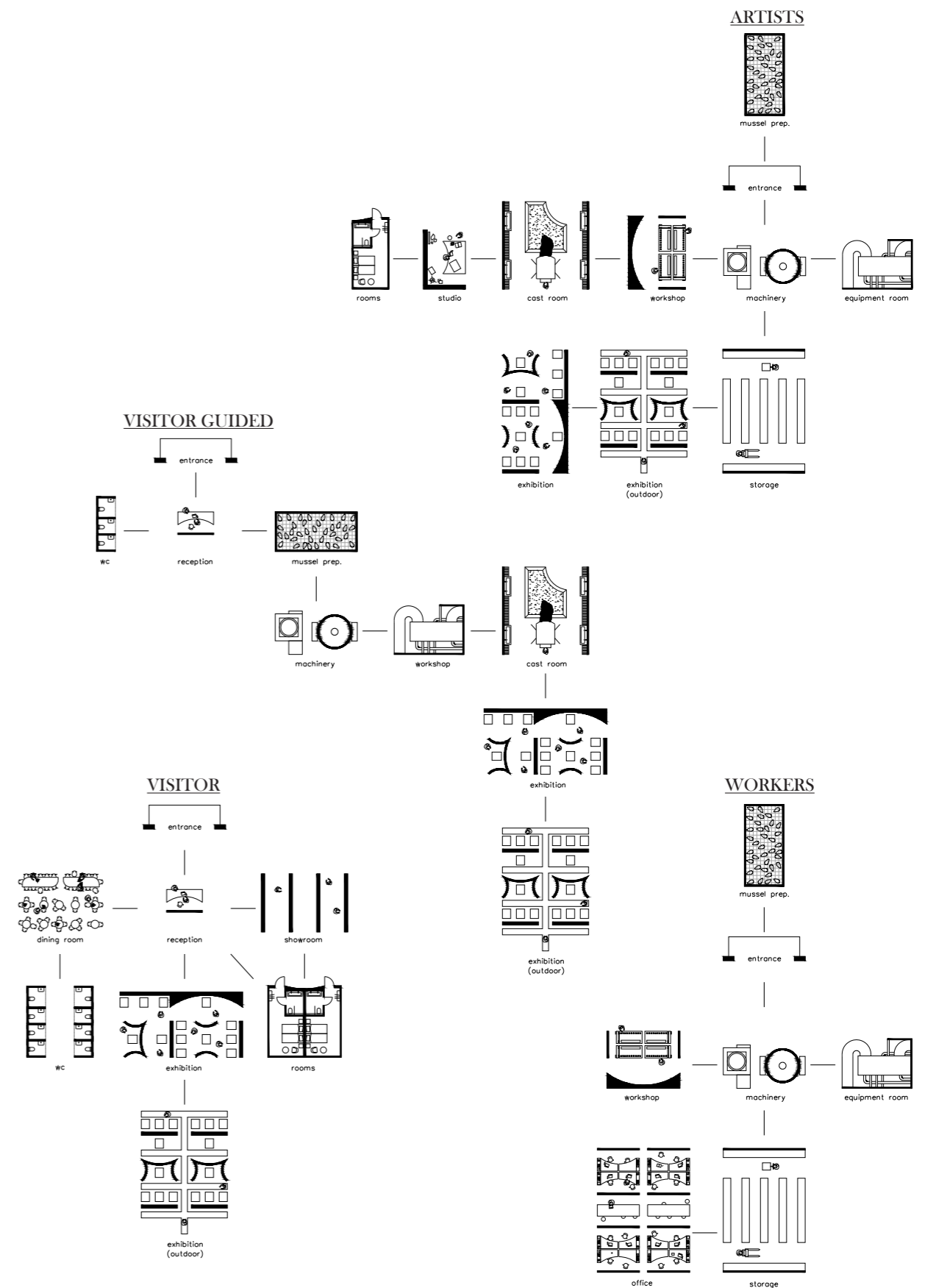
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| Rooms (6) | á 36 m ² | 1 |
| Studio (6) | (5) 20 m ² , (1)43 m ² | 1 |
| Exhibition | 115 m ² | 1 |
| Reception | 40 m ² | 1 |
| Restaurant | 175 m ² | 1 |

| | |
|-----------|--------------------|
| IN TOTAL: | 509 m ² |
|-----------|--------------------|

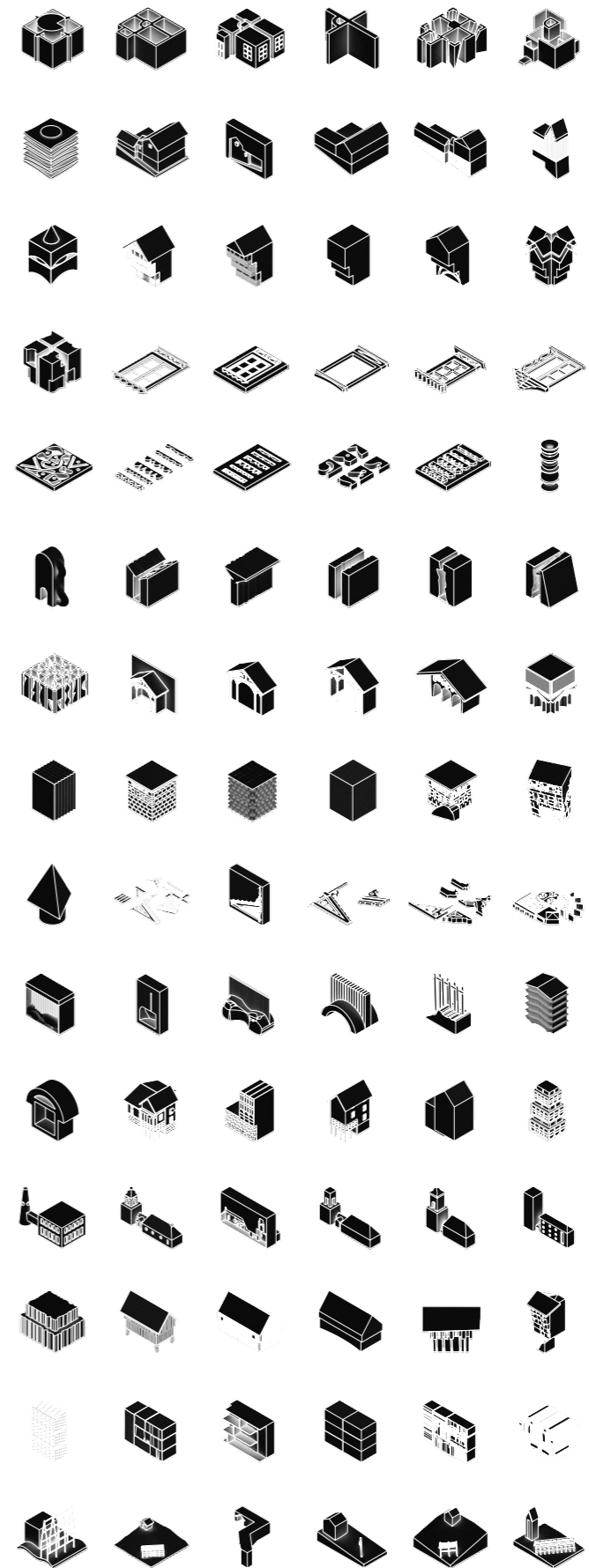
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| FOOTPRINT: | 2100 m ² |
|------------|---------------------|

MACHINES

- Crusher
- Strainer
- Mixer
- Furnace
- 3D printer



METHOD



METHOD

“Artists today program forms more than they compose them: rather than transfigure a raw element (blank canvas, clay, etc.), they remix available forms and make use of data”

- Bourriaud

Bourriaud argues that contemporary artists tend to more navigate through already existing forms and reassemble them rather than to make new artwork, this goes for both artists and musicians. He argues that this type of artwork is no longer an endpoint product but rather a simple moment in an infinite chain of contributions.

Instead of looking at “typical” contemporary architecture from similar conditions, often found at Pinterest or Google, we were focusing on the nearby architecture in the region. Looking only at buildings in proximity to the site to contribute to a regional nuance.

One of the key aspects of this thesis is the reinterpretation of architectural elements and components from Bohuslän. The initial work in the thesis was to test different approaches on how to reinterpret an original design into a new design. The design varies in scales and detailing and is illustrated, after alterations, through castings. The outcome is then designed using the findings from previous steps. The notion of reinterpretation is a known attribute within writing, art and music where its called paraphrase, re-mix or sample. This thesis dealt with alterations and iterations similar to the way an artist or author uses a paraphrase; the input goes through the architect and becomes something new, with the original intent/essence still present.

“A paraphrase is a restatement of the meaning of a text or passage using other words. The term itself is derived via Latin paraphrases from Greek, meaning additional manner of expression.”

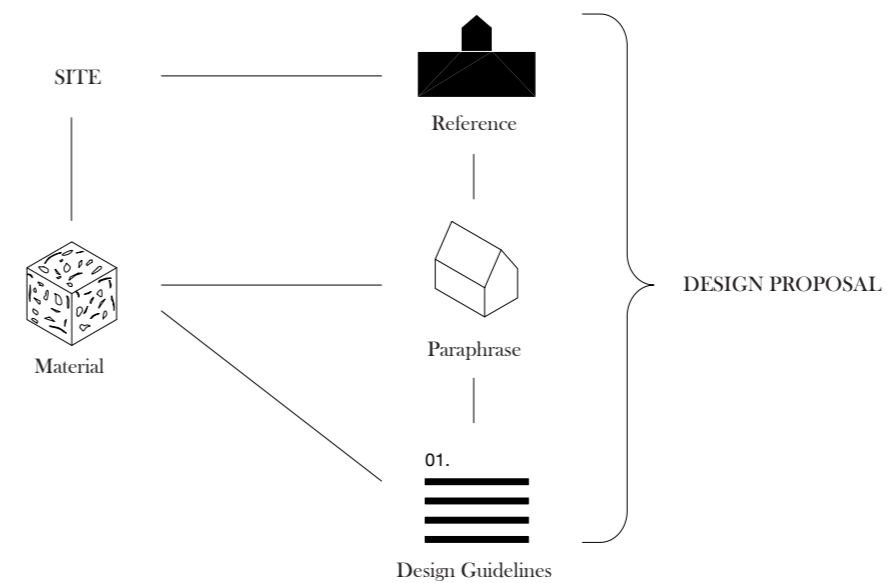
- Wikipedia

METHODS FOR REFERENCE PARAPHRASES

To avoid a repetitive result and to explore different aspects of each reference there was six different methods for the paraphrases (see below). The variations were chosen based on their process; some had a digital approach while other focused on physical models and so on.

To get a coherent result they all were made within a 10x10x10 cm boundary and with the intent of being casted in the mussel concrete. Some of the results of the methods included a contrast within the shape, therefore also was used as an investigation of materiality and not solely as a paraphrase of design.

- A: **DESCRIPTION:** Original (2D image) - Text (description of the element) - Interpretation of the text (new 3D element)
- B: **DEPICT:** Original (2D image) - Computational model - Abstraction in the form of a simplified pictogram
- C: **CASTING FOCUS:** Inspired by R. Whitread & FAT, explores the negative and/or positive forms; Original (2D image) - Computational model of negative and/or positive space
- D: **SIMPLIFY:** Original (2D image) - Remove all unnecessary information, simplify geometries and streamline
- E: **REPLACE:** Like traditional paraphrase paintings or photographs this keeps the composition of the element but replaces the parts with similar but different objects and/or materials; Original (2D image) - Physical model (concept model) - Computational model
- F: **COLLAGE:** Inspired by the graphic designer Ray Gun and his 90's work. An approach that distorts and bedraggles the printed image of the elements; Original (2D image) - Re-interpretation of the image/drawing - computational model of the new image



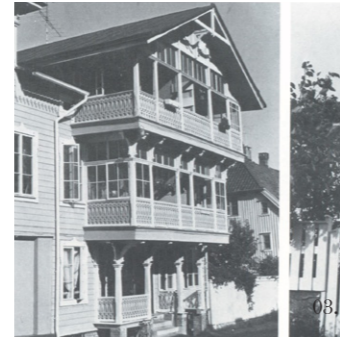
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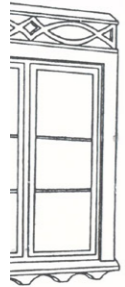
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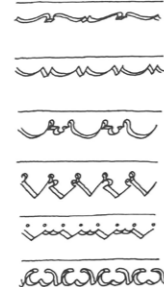


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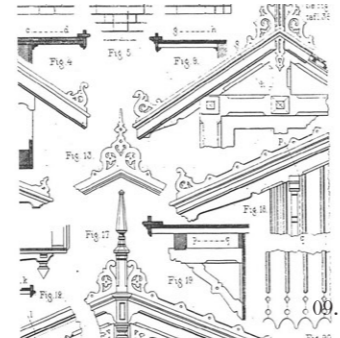
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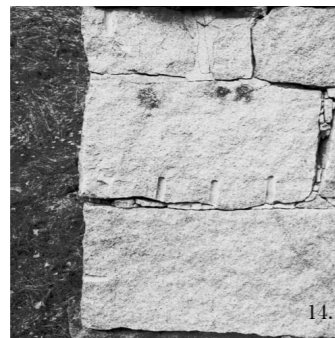
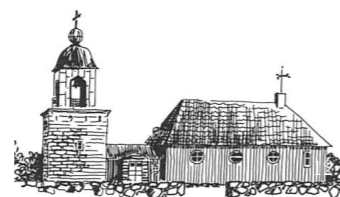
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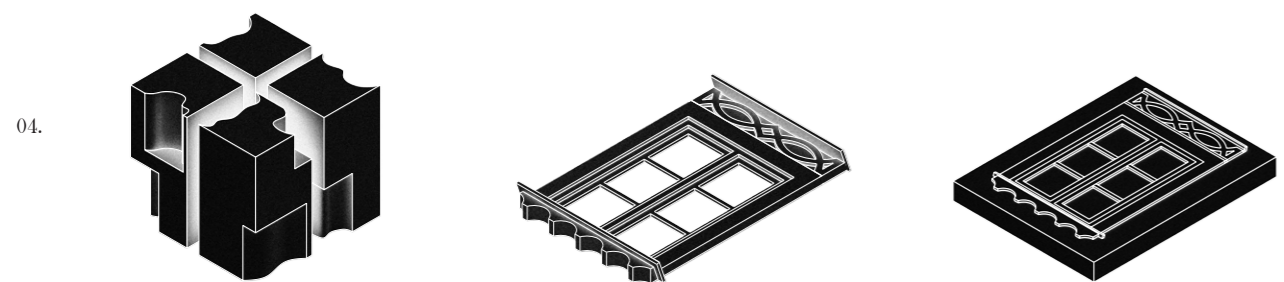
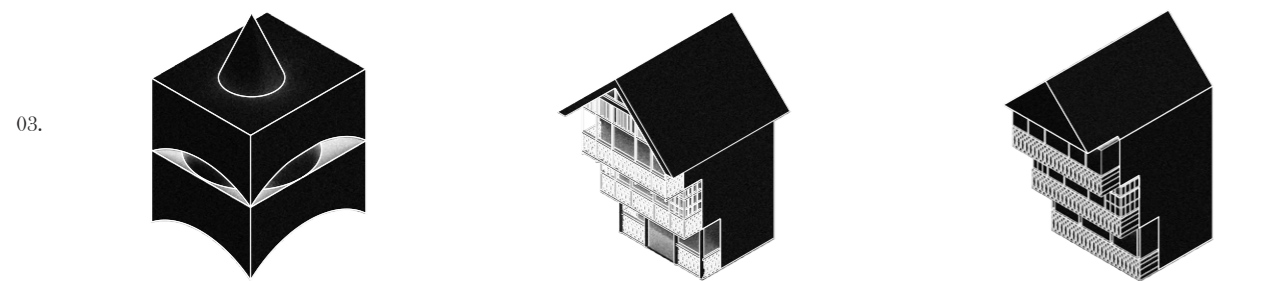
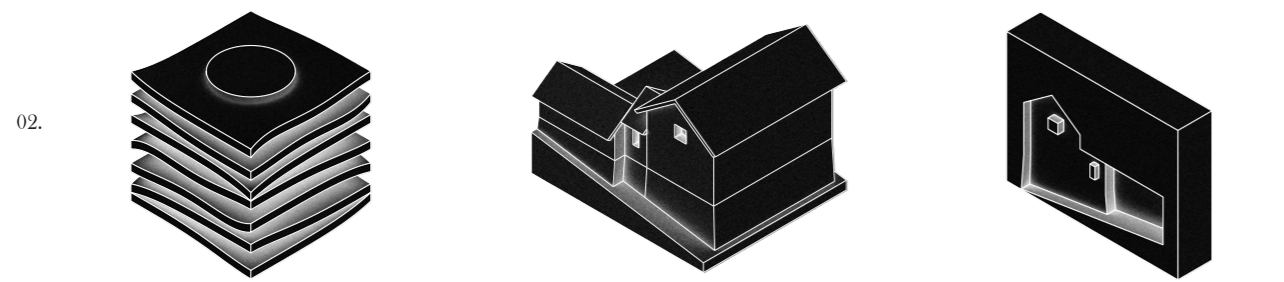
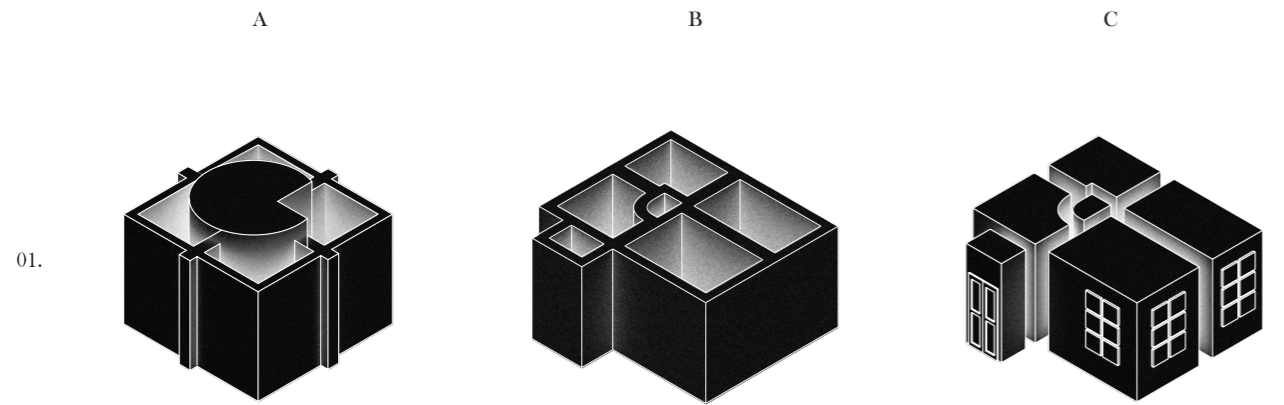


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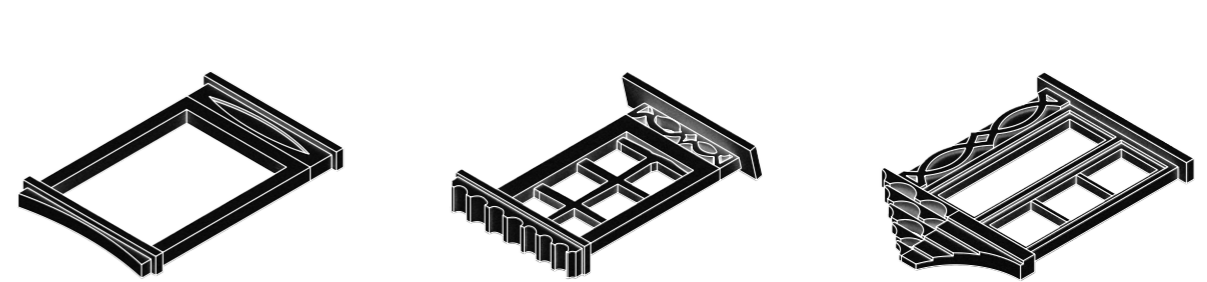
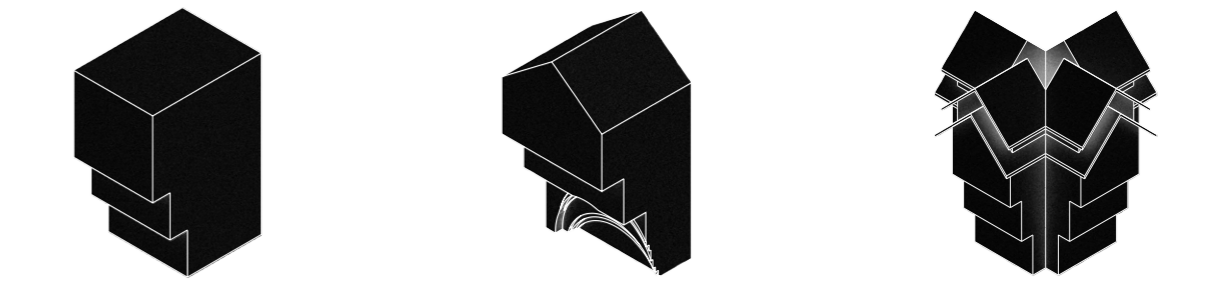
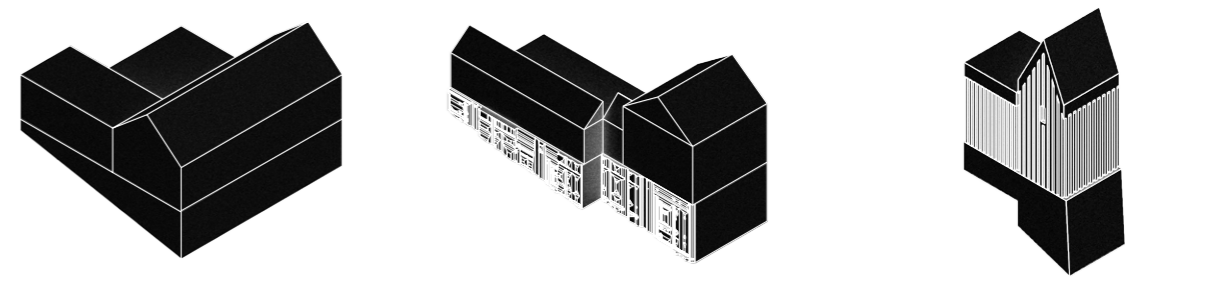
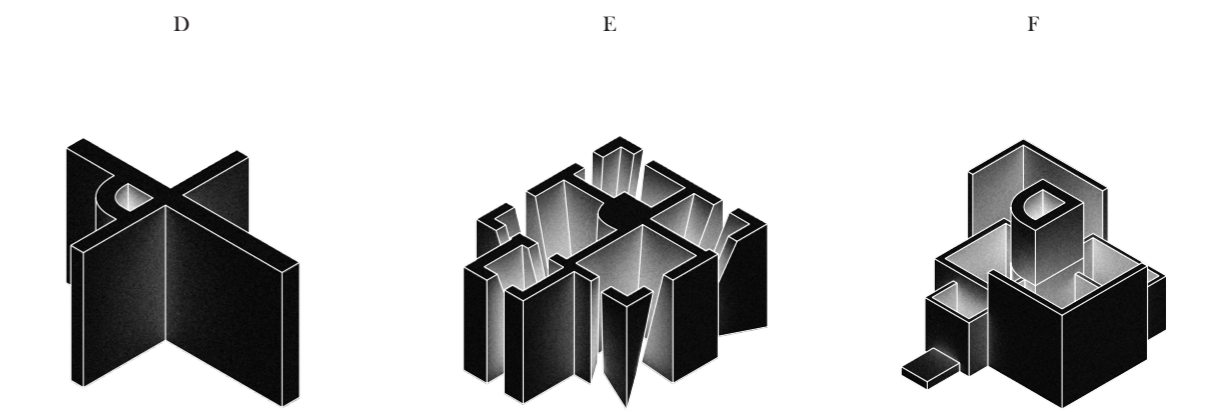
The images were chosen to represent buildings and building components in Bohuslän. The selection is a representation of multiple variations of each image; one approach to a detail may vary from village to village.

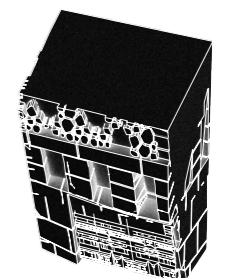
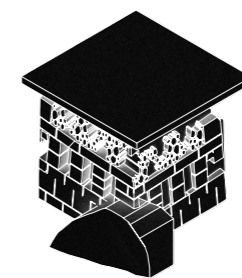
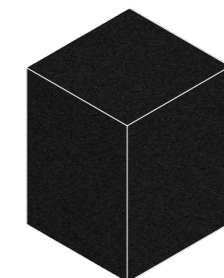
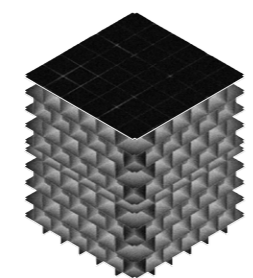
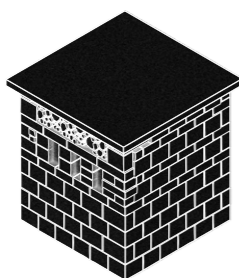
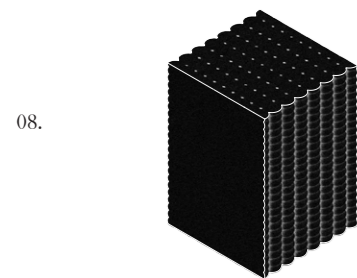
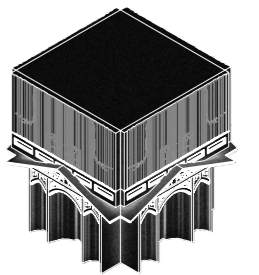
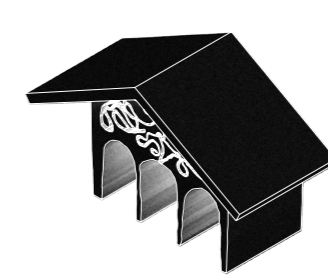
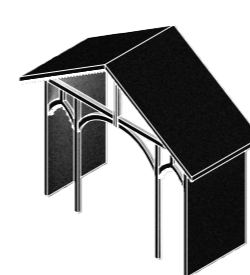
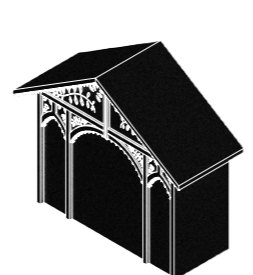
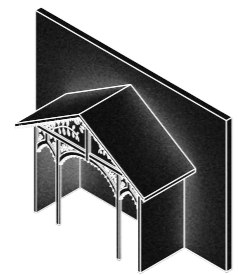
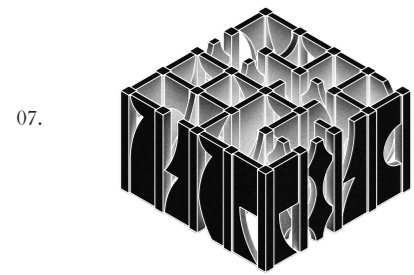
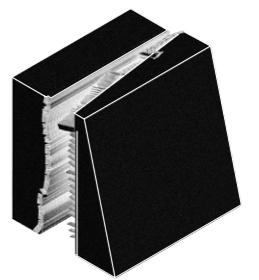
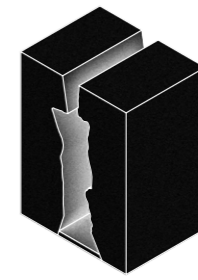
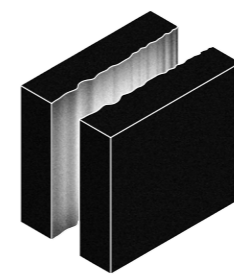
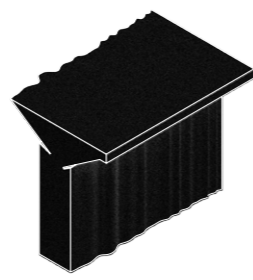
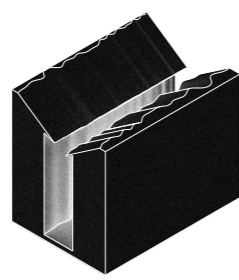
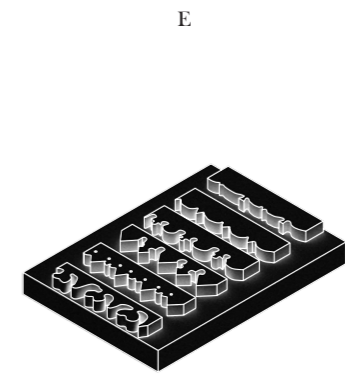
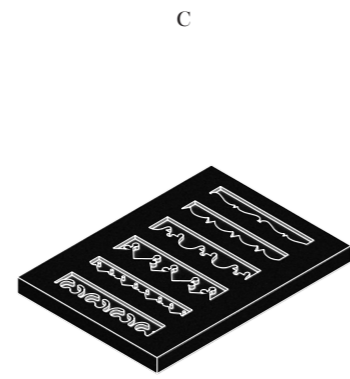
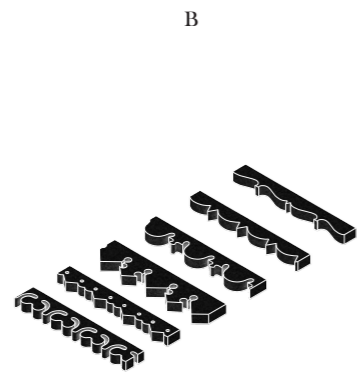
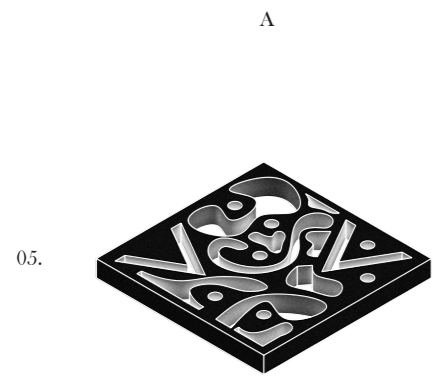
The references are, on purpose, mostly from the beginning of the 19th century. They were made with influence from other cultures and traditions without the intent for a global scene. While modernist architecture, with its internationalism and standardism, aims for a global intent or a universal truth.

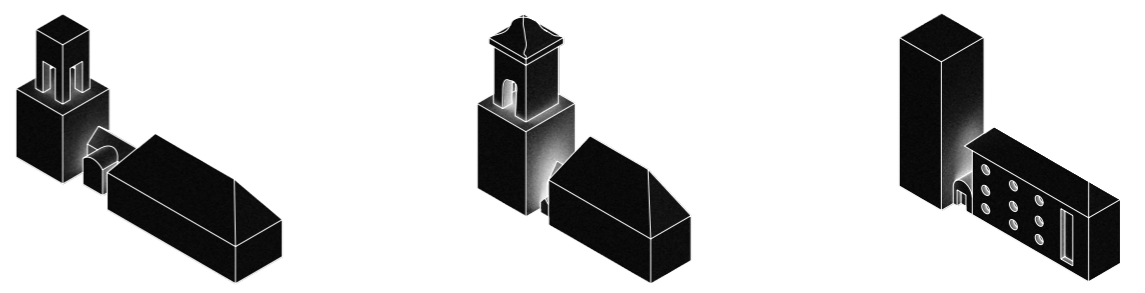
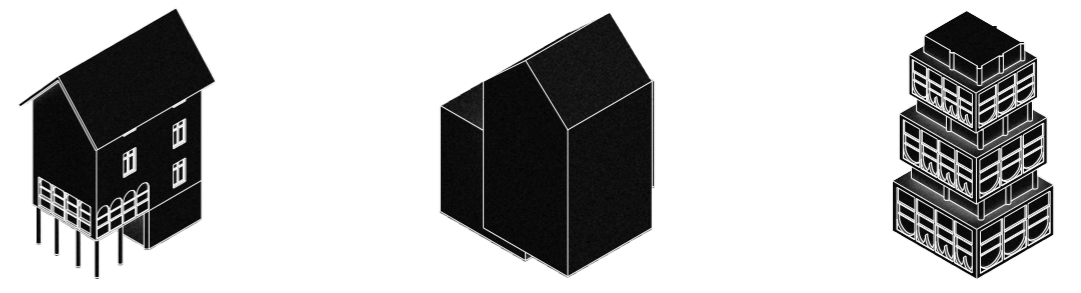
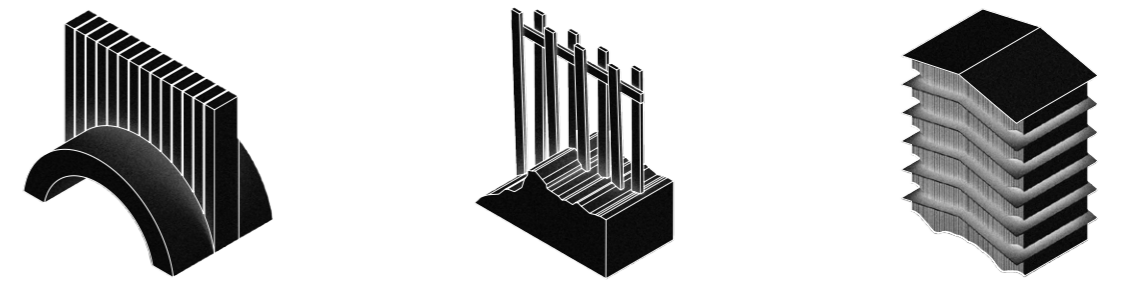
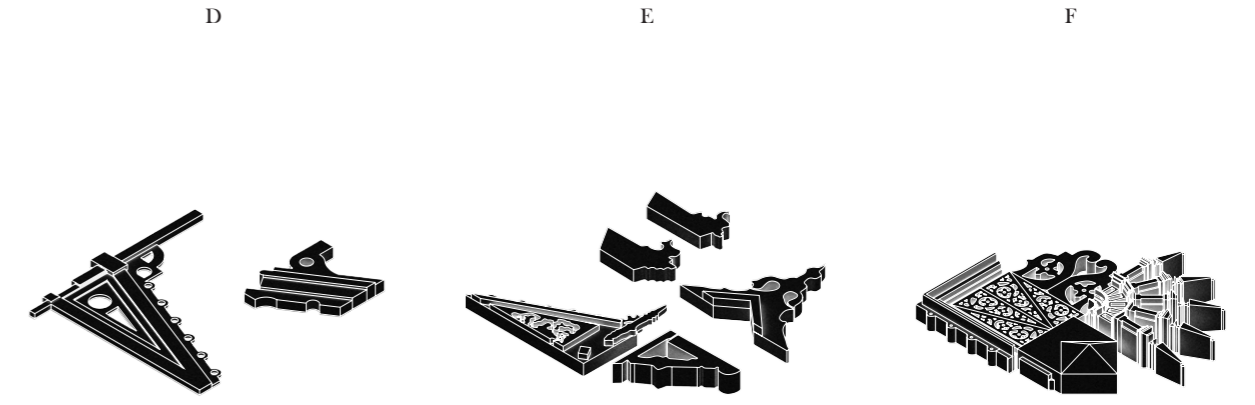
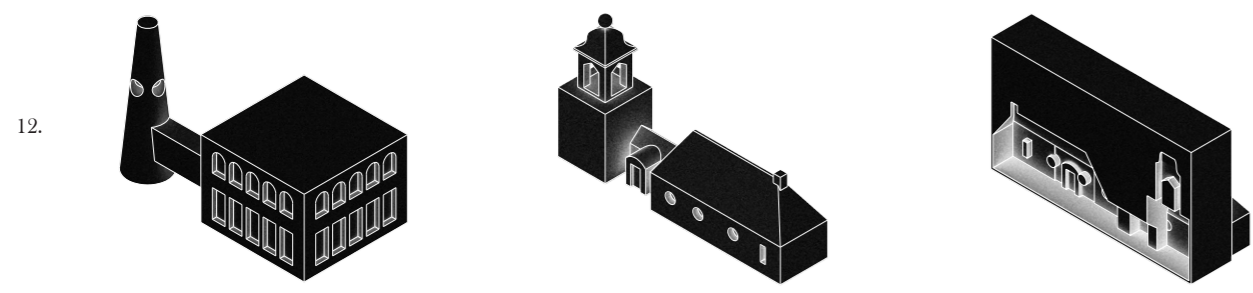
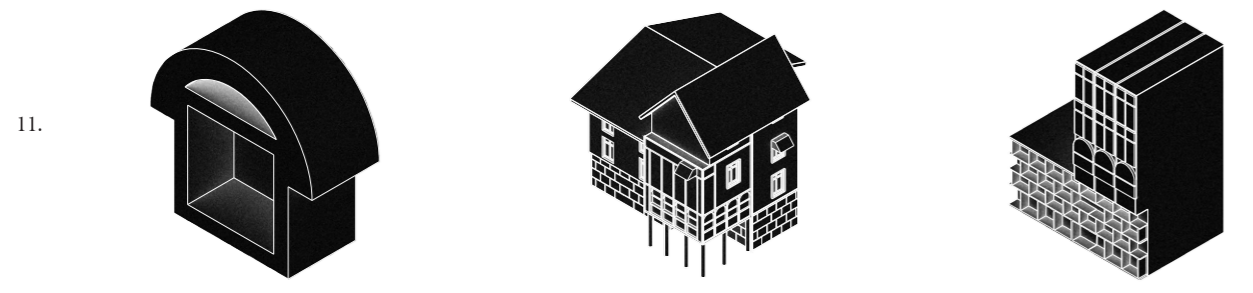
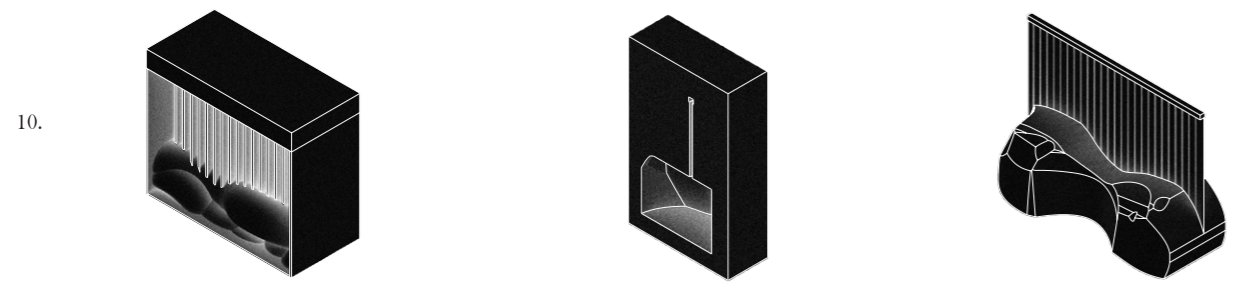
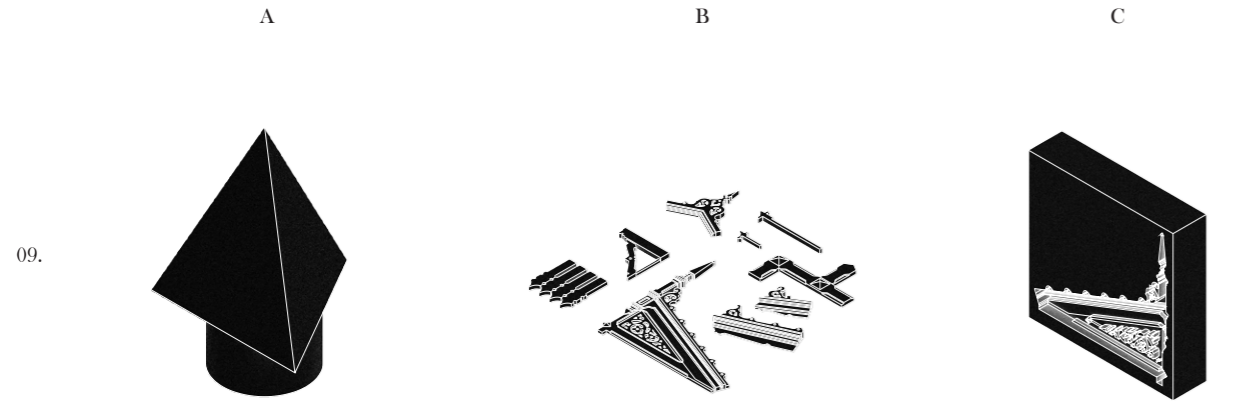
This thesis worked with references whose origin and purpose was for the local environment and context, thus representing a regional character.

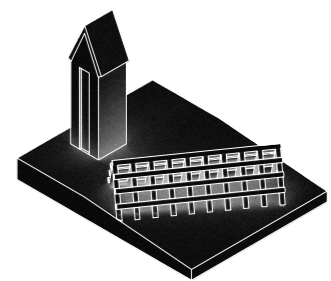
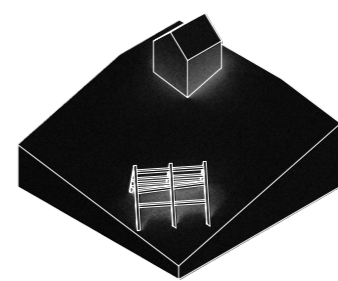
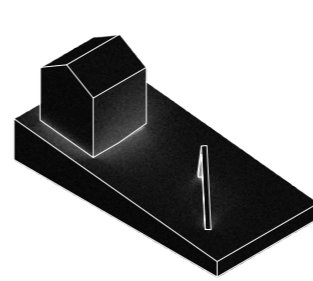
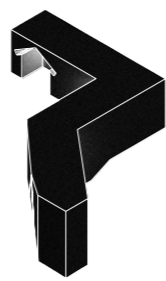
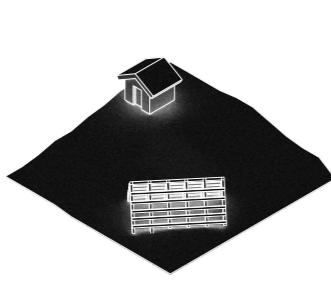
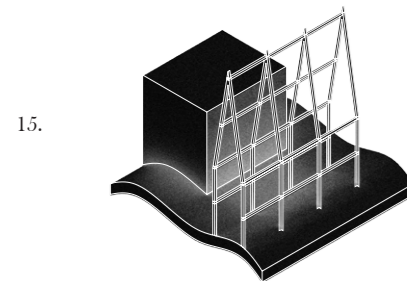
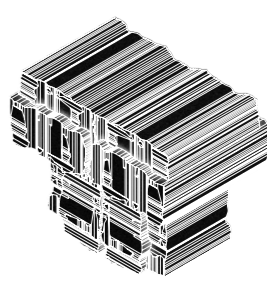
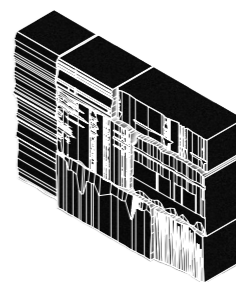
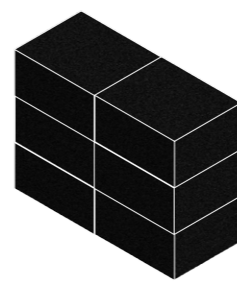
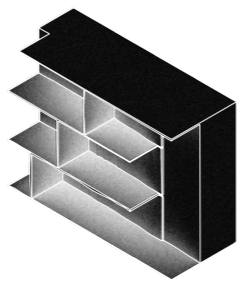
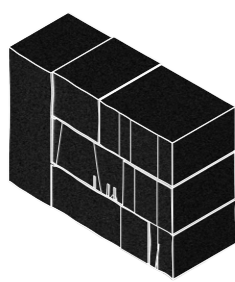
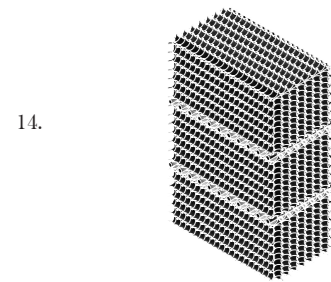
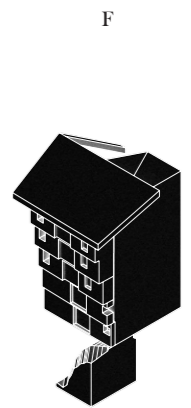
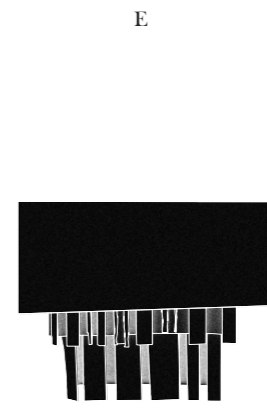
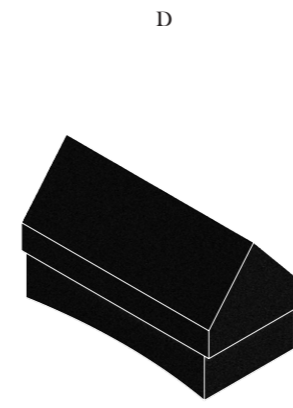
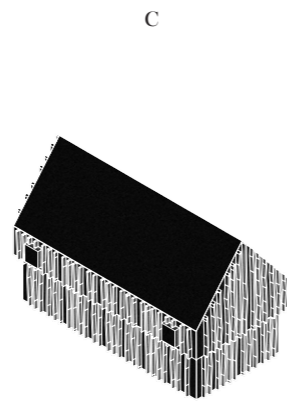
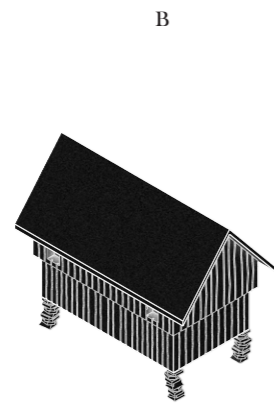
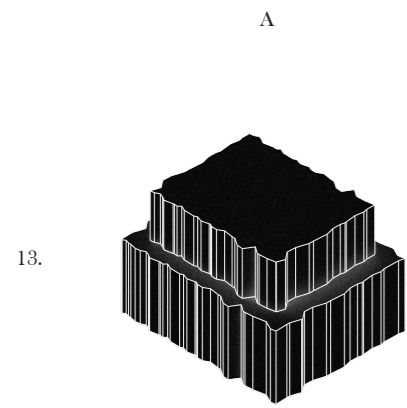


* From Appendix "IV-Paraphrases" for more content.









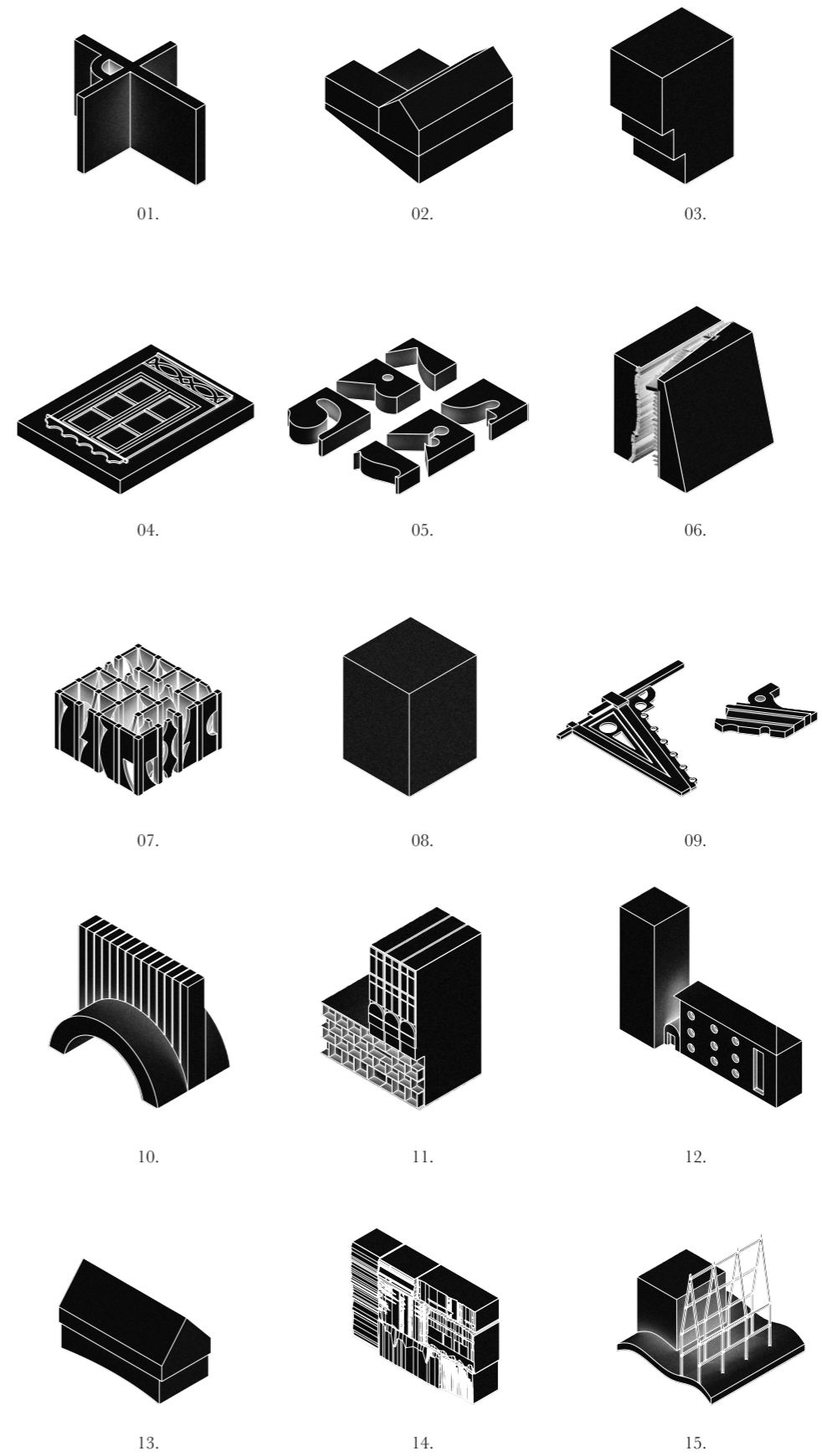
DESIGN GUIDELINES

From the previous step, paraphrases, a thorough evaluation was made based on their compiled qualities and one or two paraphrases from each reference where chosen for their representative qualities and casted. The evaluation led to fifteen design guidelines based upon the paraphrases and the references.

The guidelines was then used throughout the process as a conclusion of our investigations. They were also used as a tools for a coherent design strategy for the building by enabling a more subjective input of the reference images.

- 01: Room configuration: Cross with core.
- 02: Materiality: Variations in texture between levels.
- 03: Volume: Terraced volumes, the ones on top larger then the ones below.
- 04: Perforation in wall: Plasticity, additive, decorative.
- 05: Detail: Repetitive patterns, smaller parts, quadrant and arc.
- 06: Interior: Slim gap, wall texture, plasticity, light in front and above.
- 07: Detail: Decorative entrances, simple structures with decorative fillings.
- 08: Materiality: Multiple textures in the same material.
- 09: Detail: Decorative ending.
- 10: Meeting with ground: Man-made submissive to nature, per perpendicular vs organic.
- 11: Volume: Divided volume with scattered facade.
- 12: Volume: Clear separation of functions. (Joined by an entrance).
- 13: Volume & Materiality: High contrast relief in the facade and additive levels
- 14: Materiality: Blocks, additive, defined textures through subtraction.
- 15: Volume: Visible production.

* See Appendix "VI - Design guidelines" for more content.



MATERIALITY



MATERIAL EXPERIMENTS



*WC = White cement | BM = Burnt mussel | <1 = Crushed mussel < 1mm | 1-4 = Crushed mussel 1-4 mm | >4 = Crushed mussel >4 mm | W = Water | + = Grown mussel | - = Wild mussel
25



Casted against <1 powder, the result was a glittering, light lavender and fluent shape.

Casted against a rough birch, the result was a relief, light gray surface.

Left: The aim was to produce a material where both the binder and aggregate was mussel-based, where the binder would be crushed and heated. Through failed experiments and due to circumstances no such mixture was found.
Above: Other experiments were instead made with the intent of finding materiality that we could continue working with in a later stage of the project.

* See Appendix "II - Material Tests" for more content.

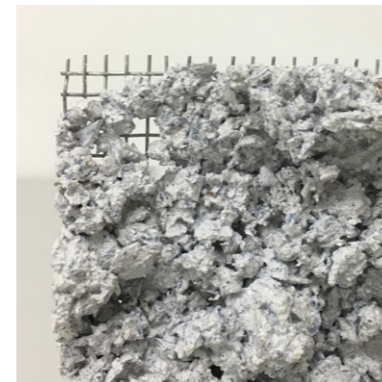
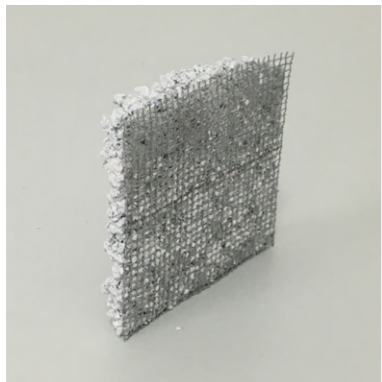
MATERIAL EXPERIMENTS



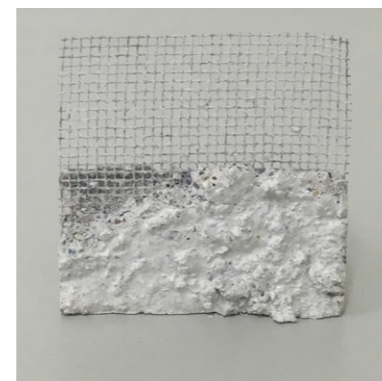
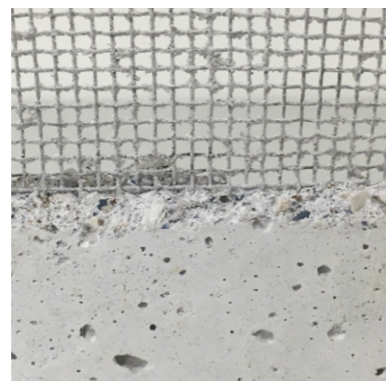
Bigger shells, visible after sanding.



Broken pieces to highlight the rough edge and smooth surface.



Rough concrete, dirt mix casted against mesh for stability



Mesh visible through splitting element.

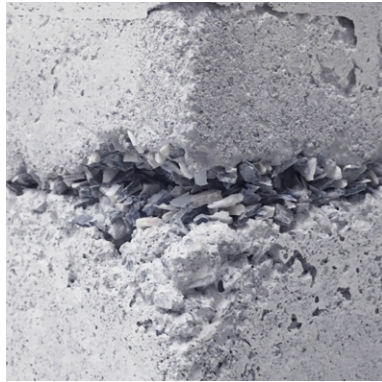
* See Appendix "II - Material Tests" for more content.



A point of failure test was conducted using two 10x10x10 cm cubes, one where the aggregation where sand and another using shells. The test showed that the mussel-concrete approximately has the load bearing qualities of brick.

Left: Further exploration were made in the material in search for an expression that displays the properties of mussels-concrete such as the brittleness.

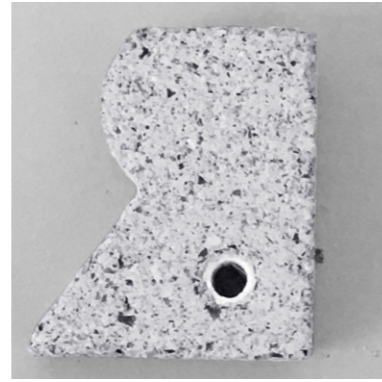
MATERIAL EXPERIMENTS



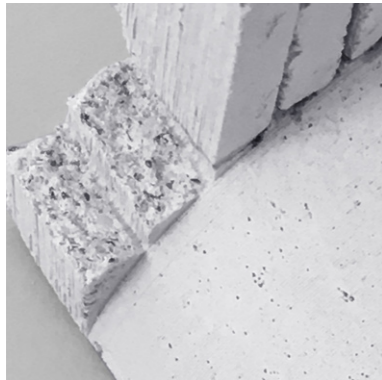
Different textures.



Coarse texture.



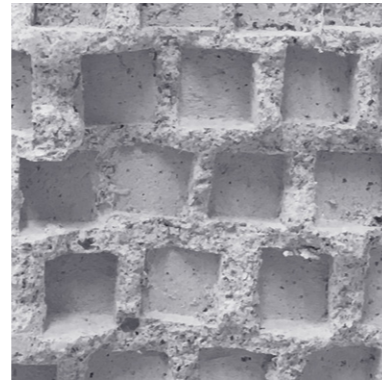
Mixture of materials.



Unintended broken pieces.



Unintended broken pieces.



Intended broken pieces.



Dry shell.



Dry mussel-concrete.



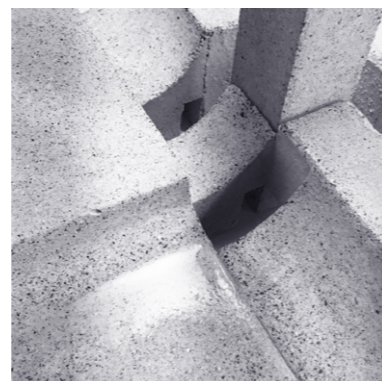
Dry model.



Wet shell.



Wet mussel-concrete.



Wet model.



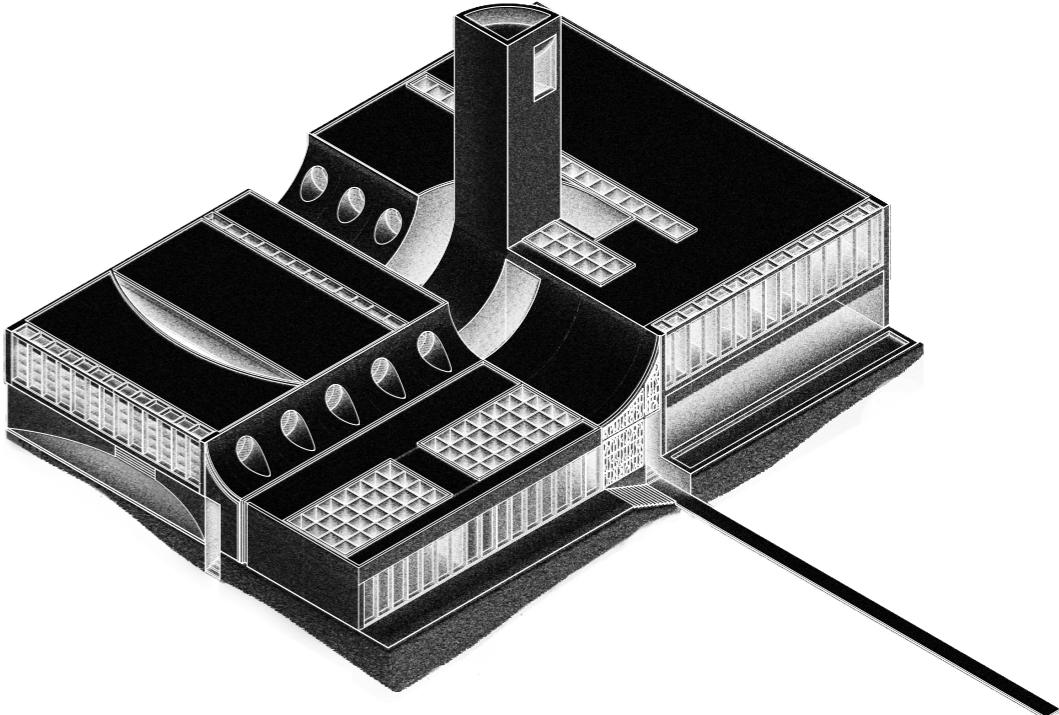
- | | | | |
|---------------------|--------------------------|-------------------------|---------------------|
| 01. Rough concrete | 03. Large shell concrete | 05. Pine | 07. Linen |
| 02. Broken concrete | 04. Small shell concrete | 06. Semi opaque plastic | 08. Stainless steel |

Upper left: The material provided unexpected properties during the making of models such as the brittleness and the effect from the molds.

Lower left: The mussel shells change their appearance to a darker nuance when they are wet and the mother of pearls emerge much clearer. This attribute is something that the concrete also have.

Above: For the design proposal a digitalization of the material tests were made and a selection of different variation of the mussel-concrete with other coherent materials were added to get a good interior composition between the materials.

DESIGN PROPOSAL



REGION



Bohuslän

* See Appendix "I - Site" for more content.

SITE



Siteplan, Scale 1:2000

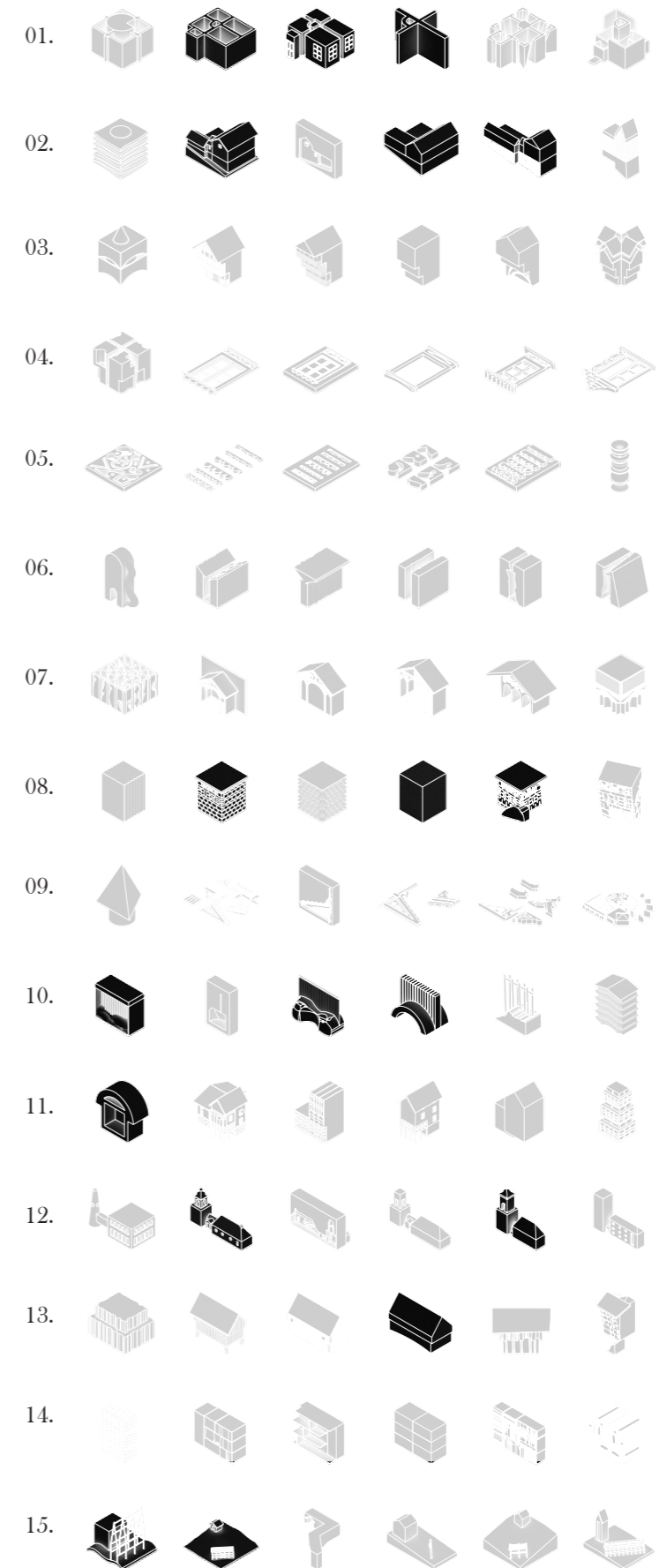
SITE



EXTERIOR - NORTH



- 01. The divided volume with central furnace derives from the cross-plan.
- 02. The foundation of the building has a rougher texture in contrast to the facade like the traditional wooden house with stone foundation.
- 08. Contrast in material within the same facade/volume.
- 10. The building is submissive to nature; the crawl space adjusts to the site while the height of the building is lower than the surrounding hills.
- 11. Large radius and simple geometry.
- 12. Two volumes are joined by an entrance. Multiple circular windows
- 13. Large semi-circle that creates an outdoor space.
- 15. Visible production; large windows to the studios, office, restaurant and exhibition

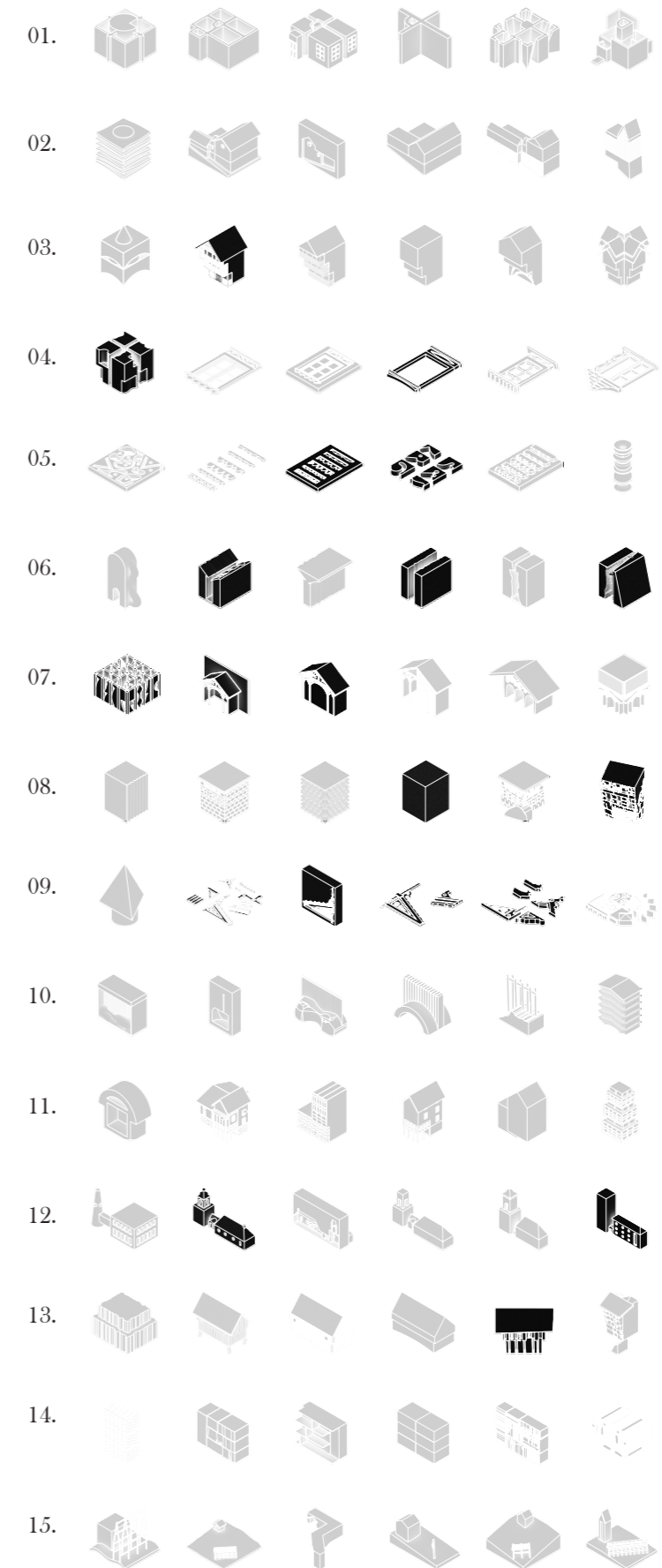


* All paraphrases have been included in the design, the ones highlighted are illustrated in the view (left).

EXTERIOR - ENTRANCE



- 03. Small variations of the facade between the levels.
- 04. Entrance and window have a decorative approach.
- 05. Repetitive, simple patterns as ornaments.
- 06. Slim gap that creates corridors with light at end and above, similar to the clusters of small fishing cottage.
- 07. The outer limits and structure defines where the ornaments are placed for the entrance of the building.
- 08. The ornaments and walls in corridors differs in texture.
- 09. Meetings of facade elements are joined by metal strips in order to create a decorative ending/joints.
- 12. The main entrance is located between the two larger volumes that contains separate functions.
- 13. Irregularity of facade elements is a reinterpretation of high relief wooden facades.

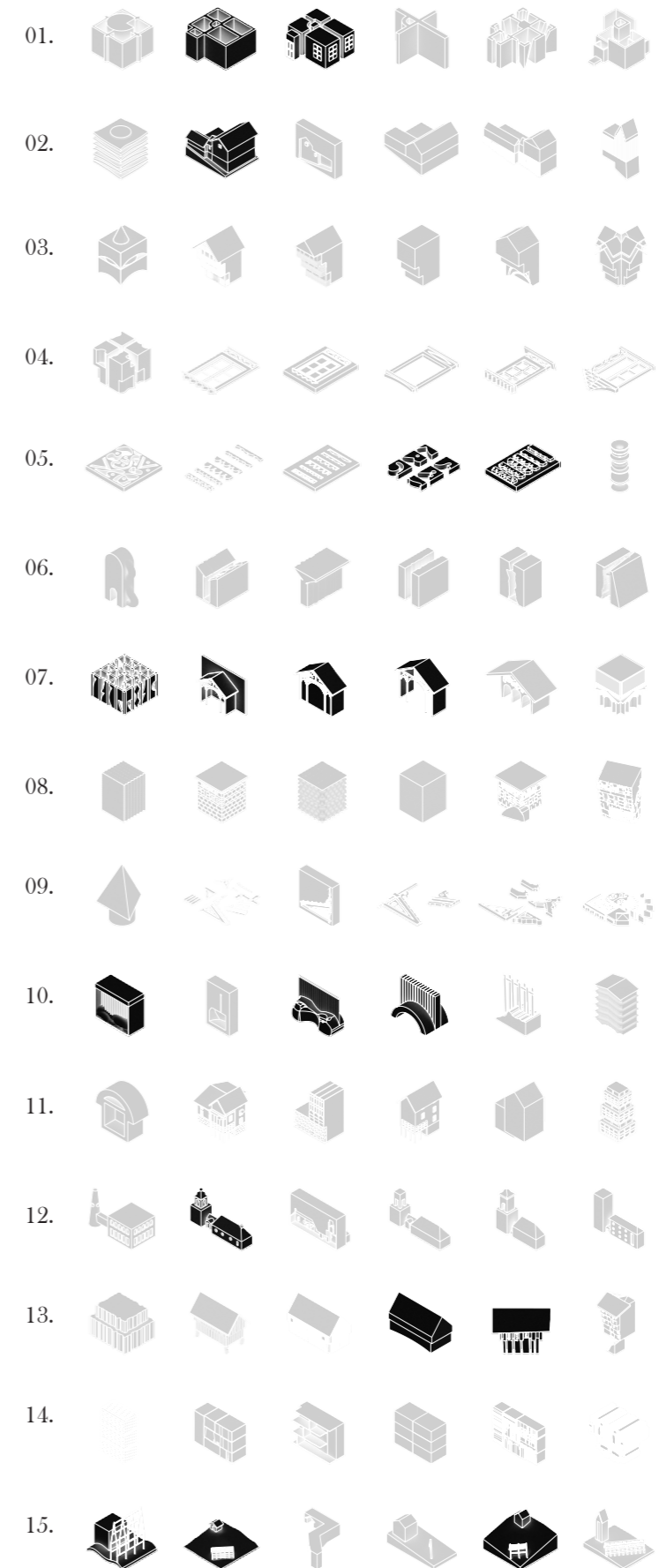


* All paraphrases have been included in the design, the ones highlighted are illustrated in the view (left).

EXTERIOR - WEST



- 01. The divided volume with central furnace derives from the cross-plan.
- 02. The foundation of the building has a rougher texture in contrast to the facade like the traditional wooden house with stone foundation.
- 05. Repetitive, simple patterns as ornaments
- 10. The building is submissive to nature; the crawl space adjusts to the site while the height of the building is lower than the surrounding hills.
- 12. Two volumes are joined by an entrance. Multiple circular windows
- 13. Level above creates a sheltered outdoor working space.
- 15. Visible production; large windows to the studios, restaurant, exhibition and workshop

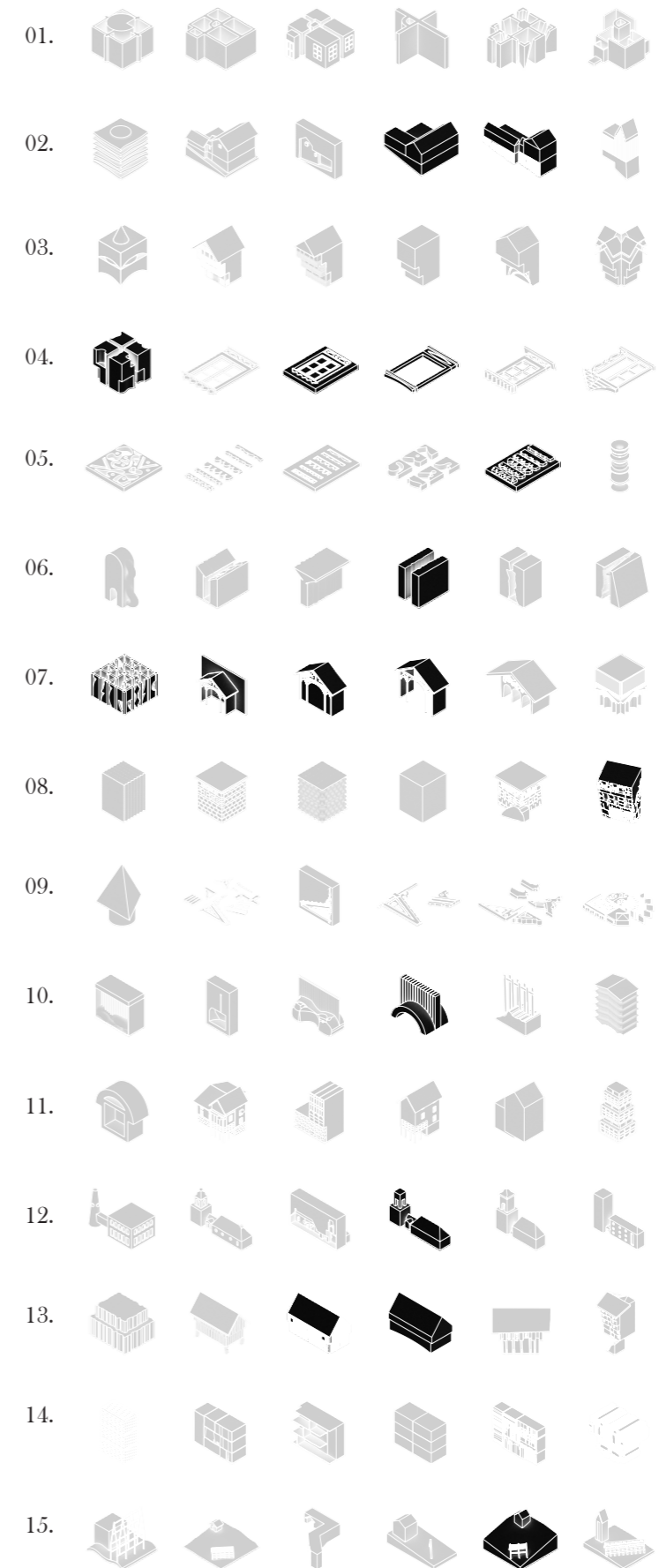


* All paraphrases have been included in the design, the ones highlighted are illustrated in the view (left).

EXTERIOR - WEST

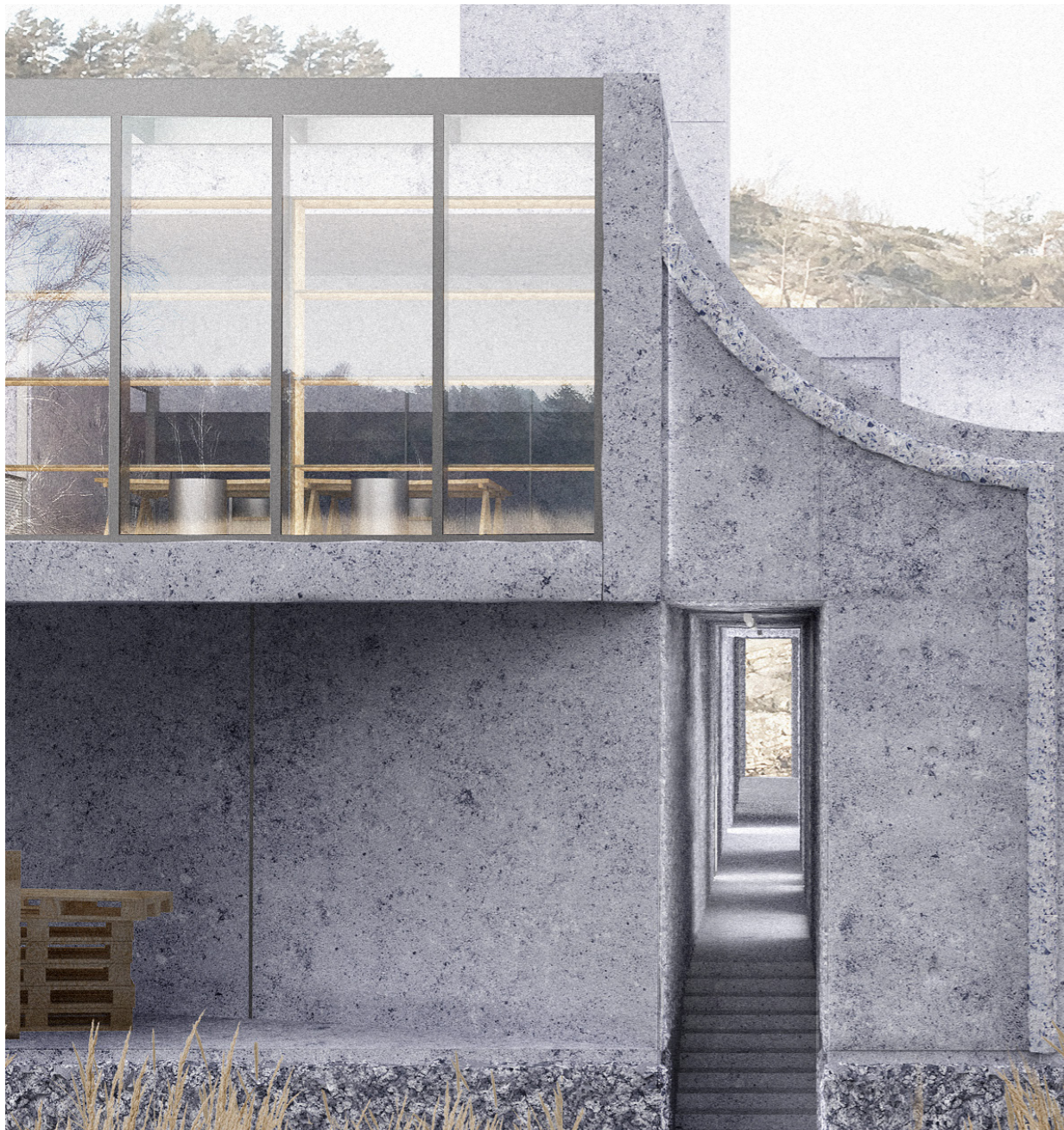


- 02. The foundation of the building has a rougher texture in contrast to the facade like the traditional wooden house with stone foundation.
- 04. Entrance have a decorative approach.
- 05. Repetitive, simple patterns as ornaments taken from one of the paraphrases from reference 07.
- 07. The outer limits and structure defines where the ornaments are placed for the entrance of the building.
- 08. The ornaments and walls in corridors differs in texture.
- 10. The building is submissive to nature; the crawl space adjusts to the site without heavy impact on the land.
- 12. The main entrance is located between the two larger volumes that contains separate functions.
- 13. Level above creates a sheltered outdoor working space.
- 15: The outdoor working space is visible for everyone.

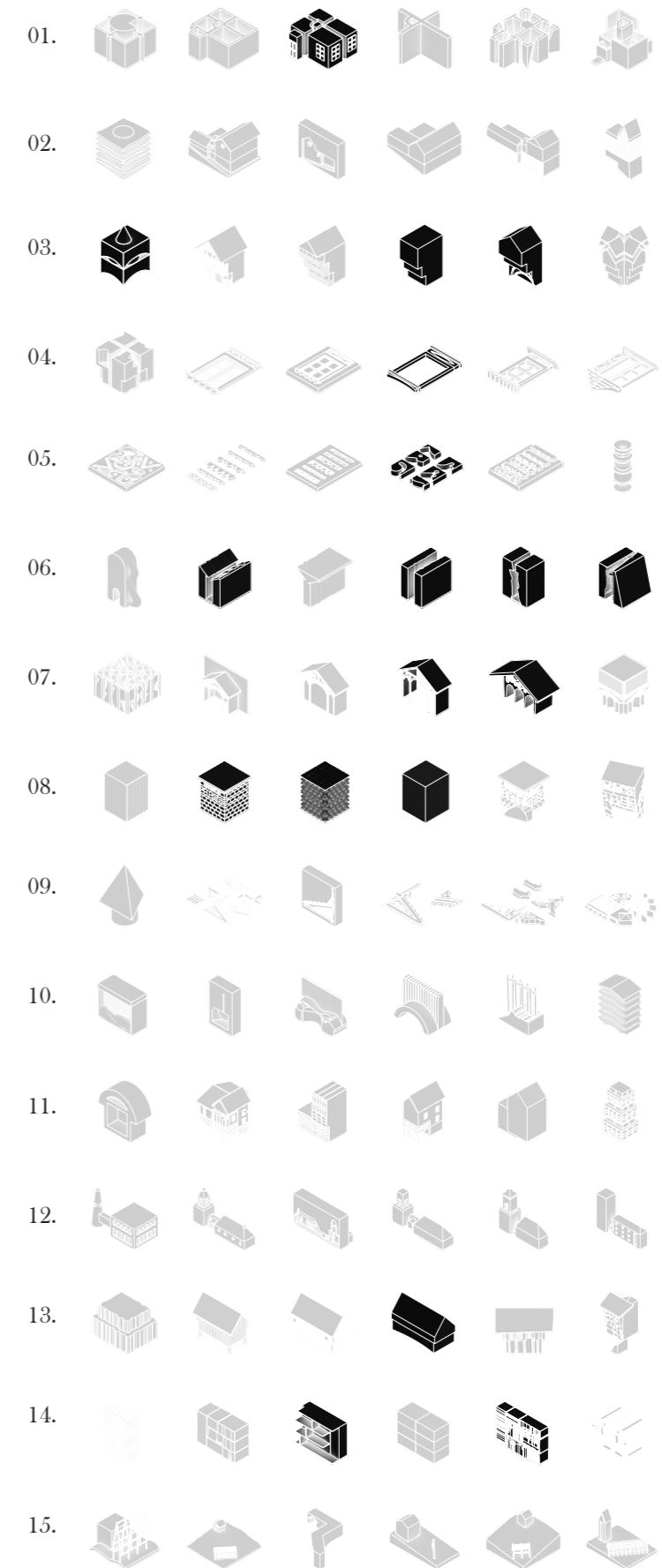


* All paraphrases have been included in the design, the ones highlighted are illustrated in the view (left).

EXTERIOR - NORTH



- 01. The divided cross-plan creates narrow gaps that works as pathways through the building.
- 03. Variations in depth of the facade between levels.
- 04. Minimalistic approach to a decorative opening.
- 05. Simple ornament is added because of the complex geometry of nearby volume and facade.
- 06. Slim gap that creates corridors with light at end, side and above, similar to the clusters of small fishing cottage.
- 07. A chiseled concrete ornament for the entrance that follow the roofs radius and the vertical opening
- 08. Difference in texture depending on their purpose; rough on the foundation, smooth for the facade and chiseled for ornament.
- 13. Large radius and simple geometry that creates a sheltered smaller outdoor space.
- 14. Subtraction of the ornament creates a different texture, chiseled.



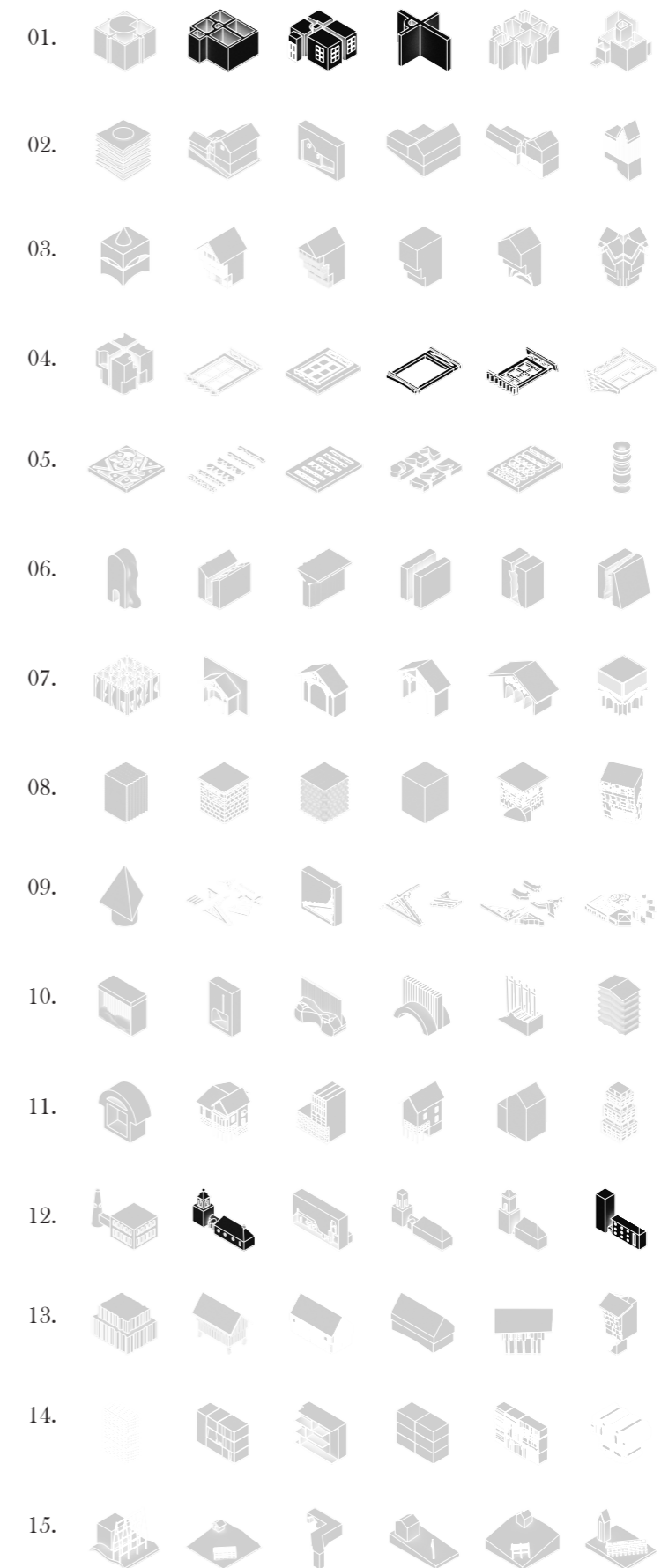
* All paraphrases have been included in the design, the ones highlighted are illustrated in the view (left).

INTERIOR - WORKSHOP



The strictness and homogeneous materiality in the room is to give an ambience of tranquility. The focus of the interior is to highlight the production where the industrial elements such as tross and slops works as decorations.

- 01. The curved wall is a consequence of the furnace and creates a contrast to the perpendicular walls.
- 04. High sill height reminiscences of churches and factories. The mesh in the windows are wink to the mullion and fishing industry of Bohuslän.
- 12. Circular windows as seen in the paraphrases of a church.

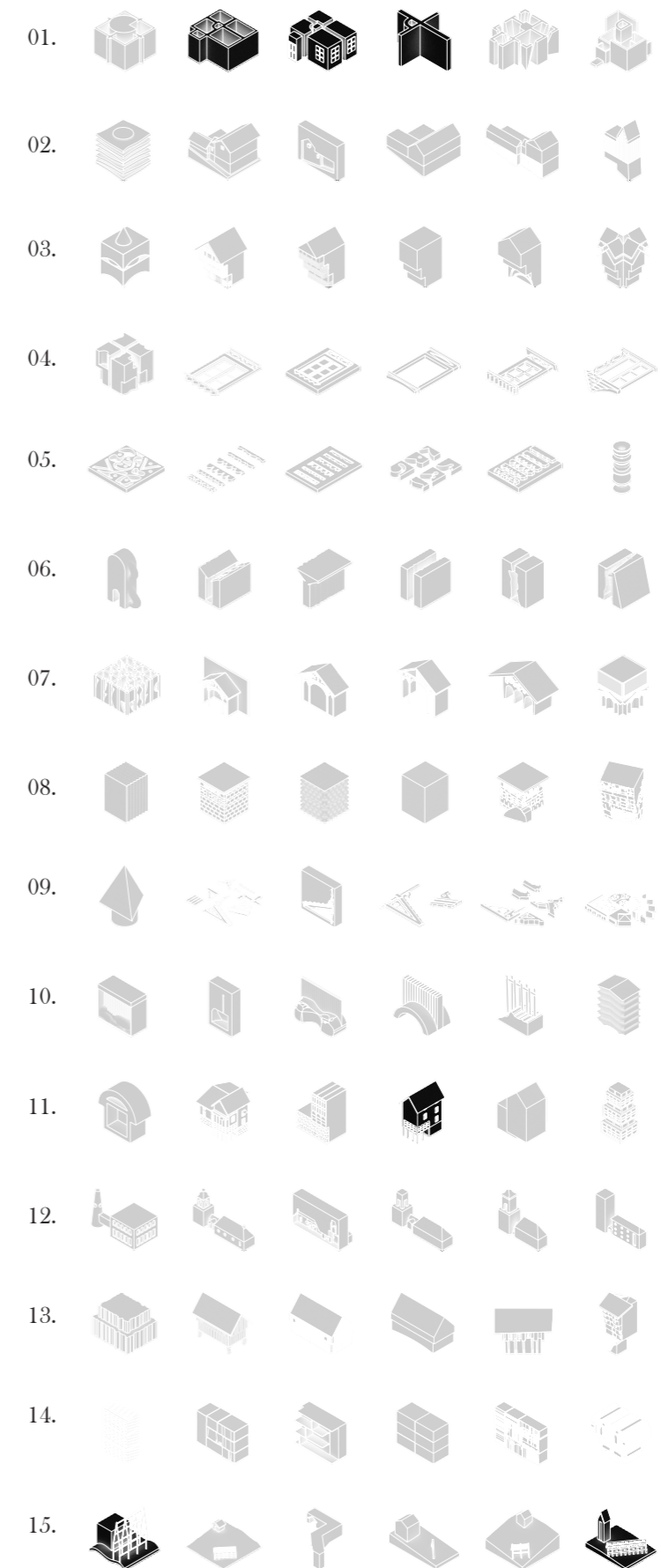


* All paraphrases have been included in the design, the ones highlighted are illustrated in the view (left).

INTERIOR - WORKSHOP



- 01. The curved wall is a consequence of the furnace and creates a contrast to the perpendicular walls.
- 11. The second floor is present and placed within the large volume as a way of showcasing an additive floor.
- 15. The workspace has a large opening to get a ocean view but also to let the public see the production from the outside. There is also a large window opening from the second floor down to the workspace so the guests as a view of the production

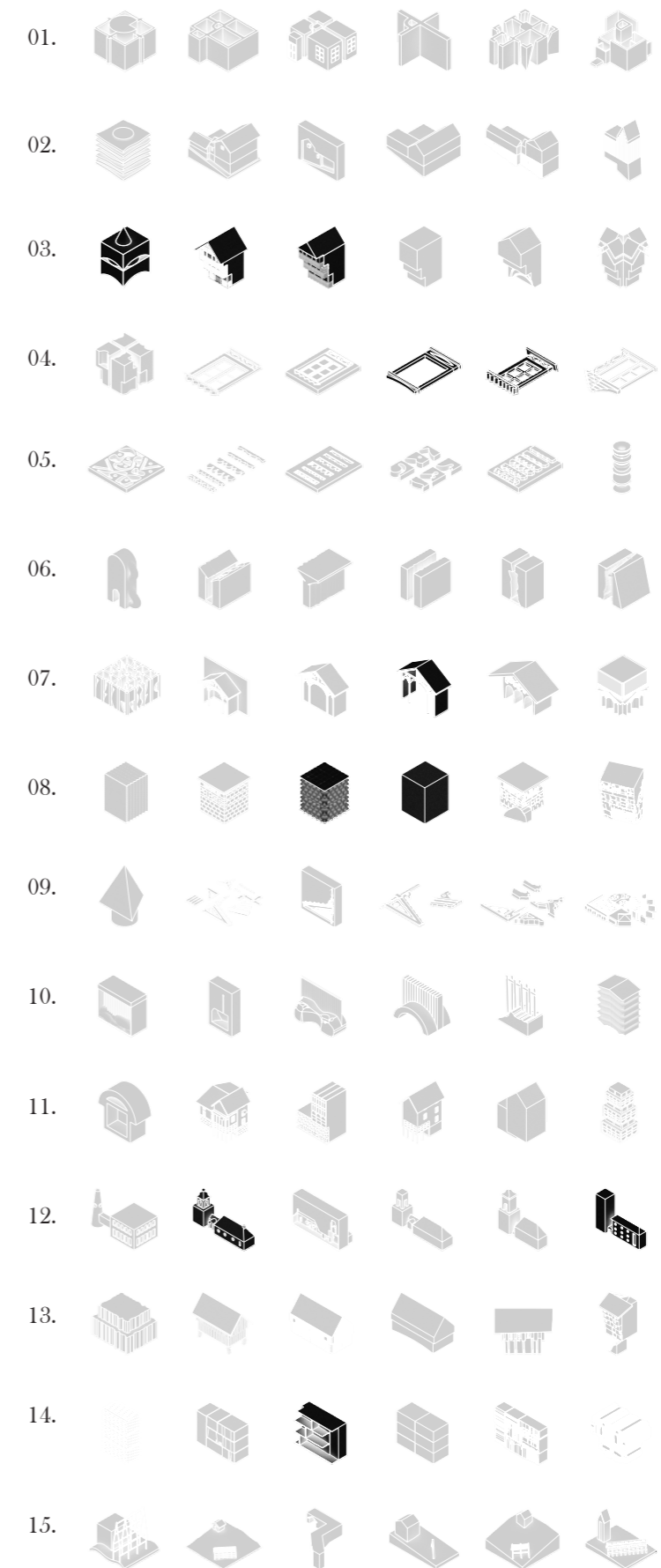


* All paraphrases have been included in the design, the ones highlighted are illustrated in the view (left).

INTERIOR - CASTING ROOM



- 03. Within the larger casting room the office is placed as a loft with a semi-circle giving a terraced encounter.
- 04. High sill height reminiscences of churches and factories. The mesh in the windows are wink to the mullion and fishing industry of Bohuslän.
- 07. The stucco on the walls made by chiseled concrete showcasing both the shells and the structure.
- 08. Different textures depending on their placement.
- 12. Circular windows as seen in the paraphrases of a church.
- 14. Subtraction of the material for the stucco creates a different texture.

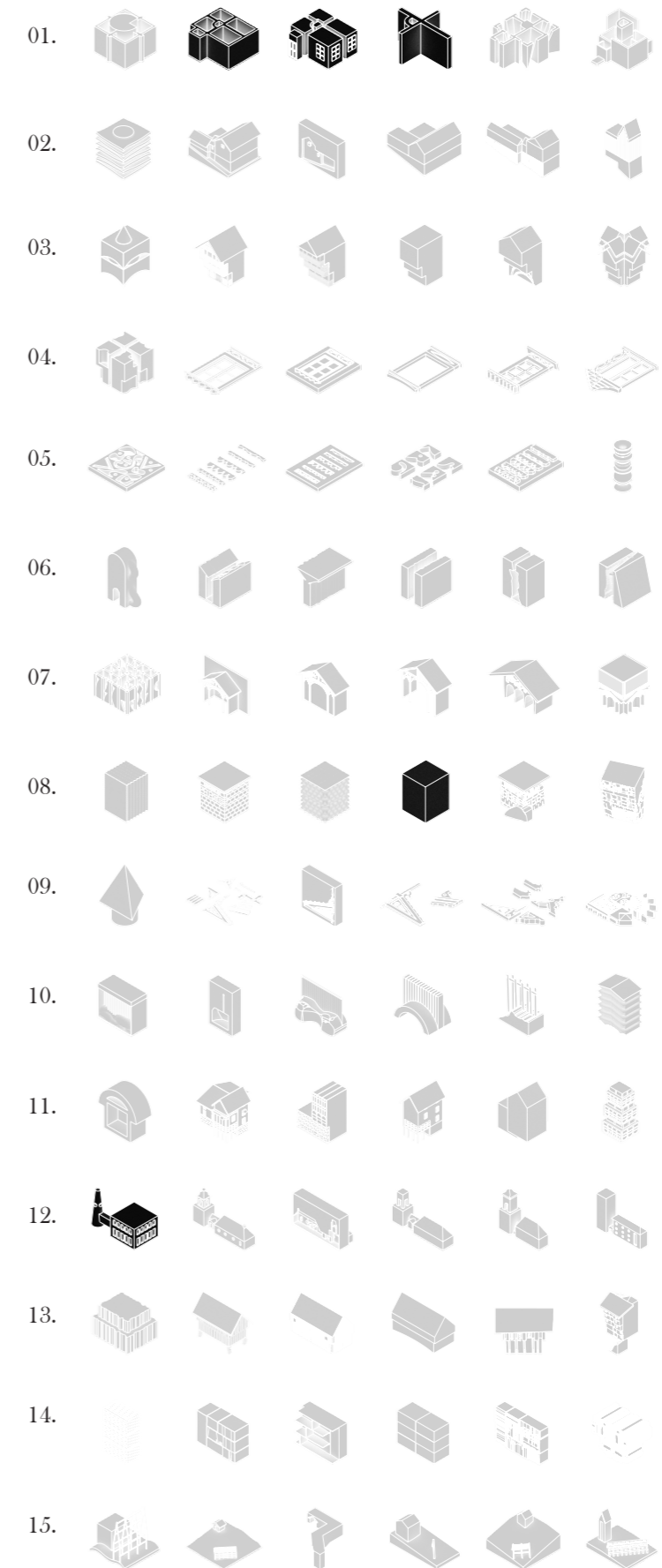


* All paraphrases have been included in the design, the ones highlighted are illustrated in the view (left).

INTERIOR - OBSERVATION ROOM



- 01. The design departed from the traditional cross-plan with a furnace at the center. In order to get a balanced composition of the design the chimney was enlarged, which enabled space for technical rooms, stairwell and an observation room at the top.
- 08. Same material with different texture.
- 12. Visible function in volume. Churches and lighthouses often works as landmarks because of their height for navigation.

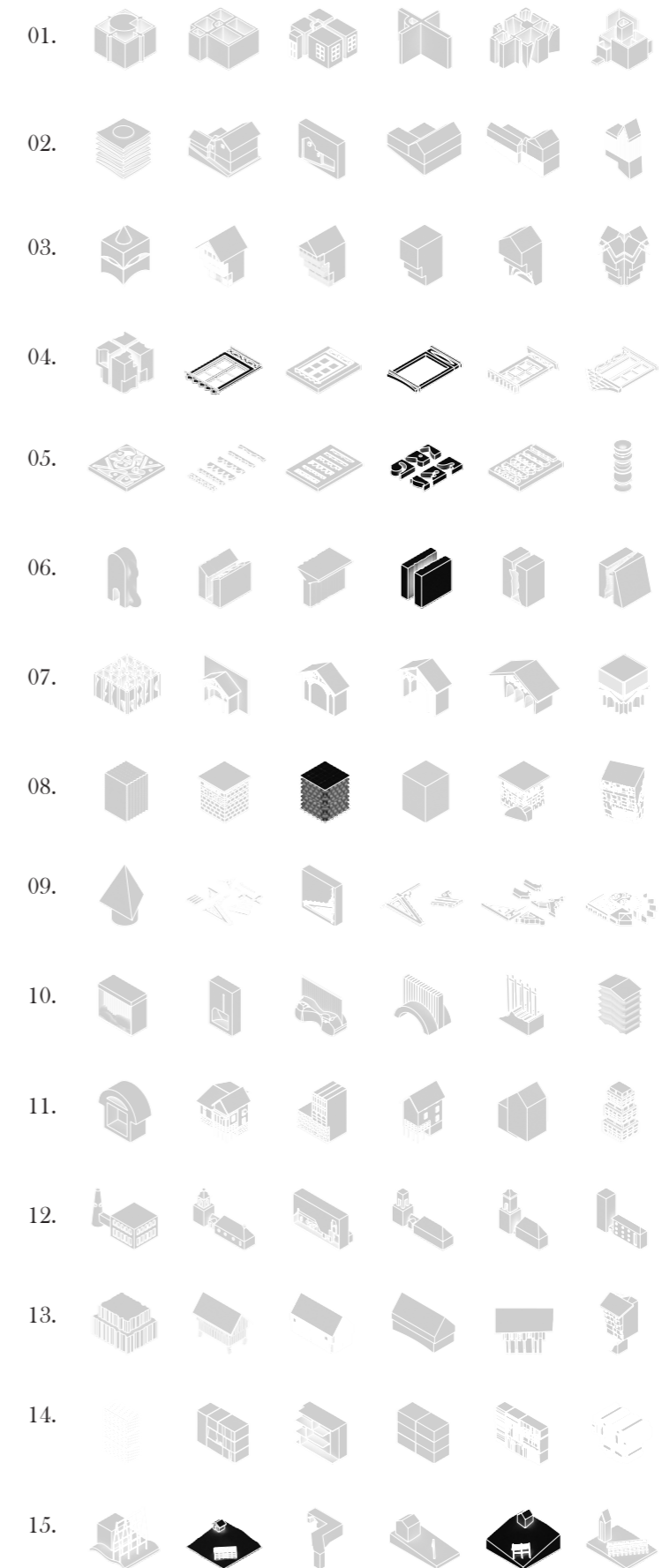


* All paraphrases have been included in the design, the ones highlighted are illustrated in the view (left).

INTERIOR - RESTAURANT



- 04. The window between the restaurant and the exhibition works as a decorative perforation in the wall.
- 05. The window frame is decorative due to its materiality of patterns created by the broken shells.
- 15. Visible function, framed view from restaurant to exhibition and into the outdoor corridor.

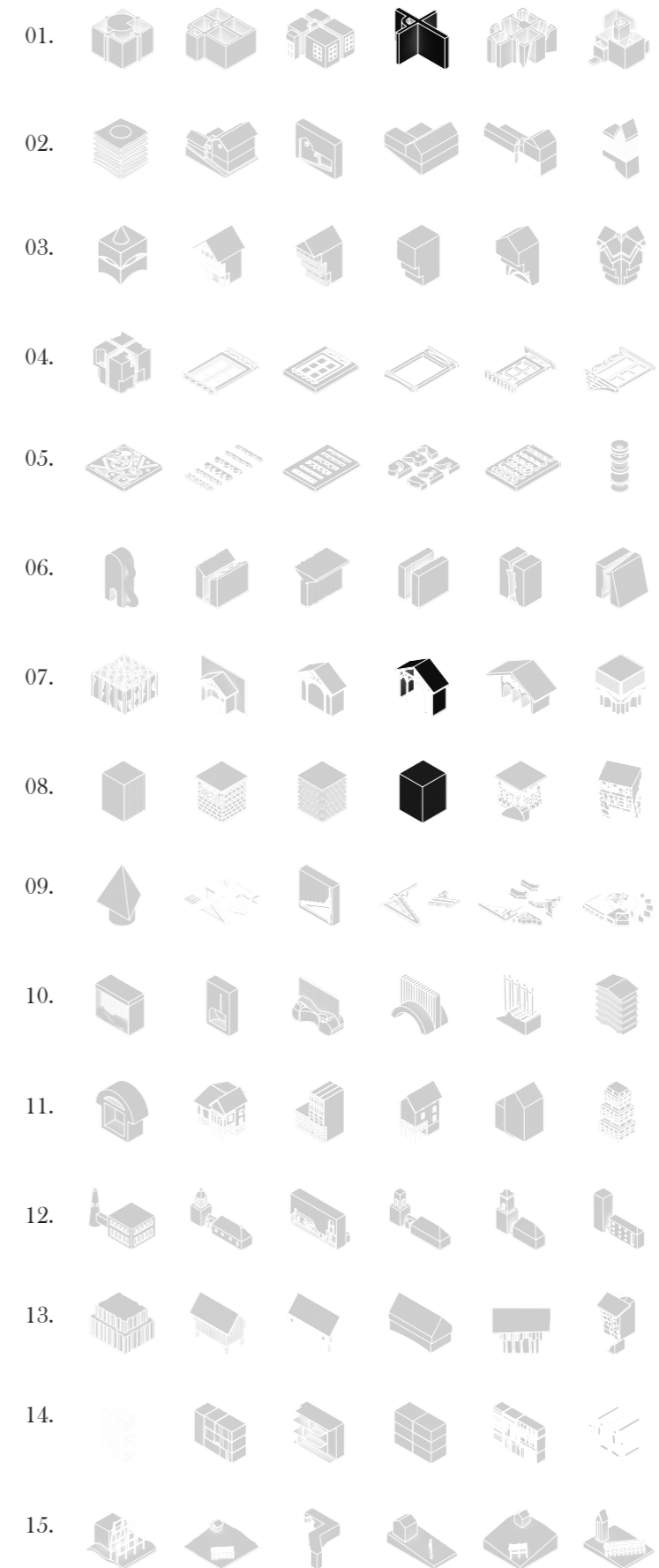


* All paraphrases have been included in the design, the ones highlighted are illustrated in the view (left).

INTERIOR - ACCOMMODATION



- 01. The layout of the rooms are inspired by the cross-plan, with a fireplace central placed.
- 07. The entrance of the room is highlighted by the curved ceiling and its materiality.
- 08. Different texture within the same material.



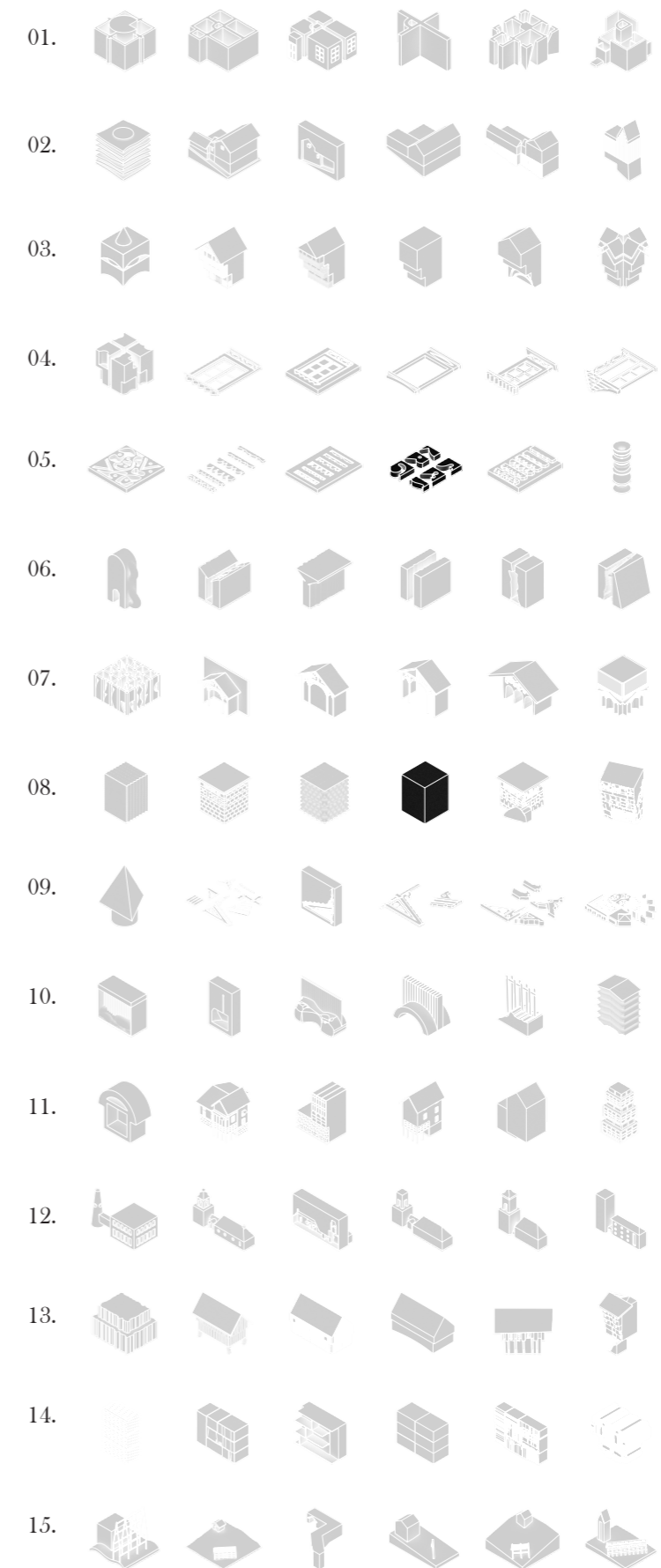
* All paraphrases have been included in the design, the ones highlighted are illustrated in the view (left).

INTERIOR - STUDIO



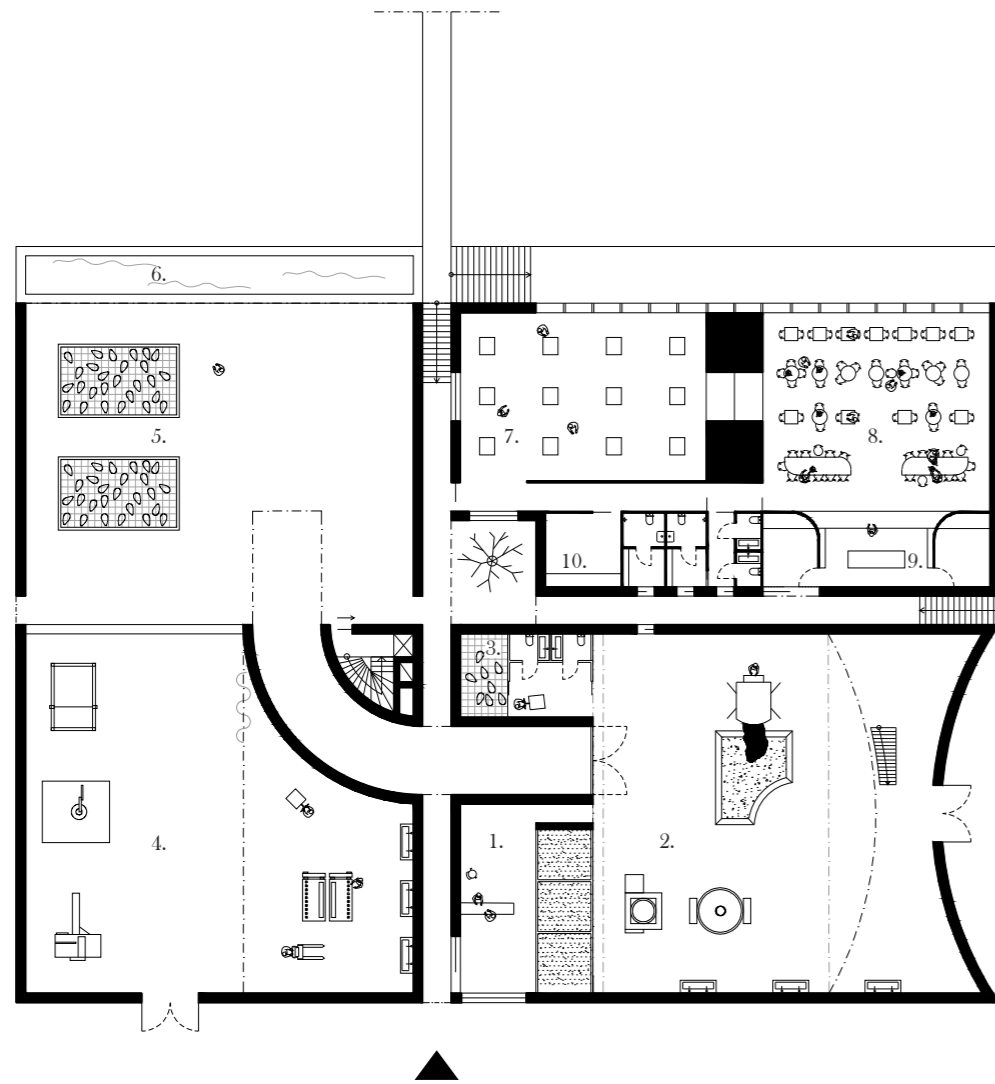
The studios follow the same logic as the workshop has, where the ascetic approach is to give a calm open space.

- 05. Instead of traditionally additive ornaments the plan and section of the studio has been influenced by traditional ornaments from Bohuslän creating a variation of spaces in the studio.
- 08. In contrast to the smooth homogeneous materiality in most part of the studio, a curved ceiling in the entrance is added, similar to the accommodations.



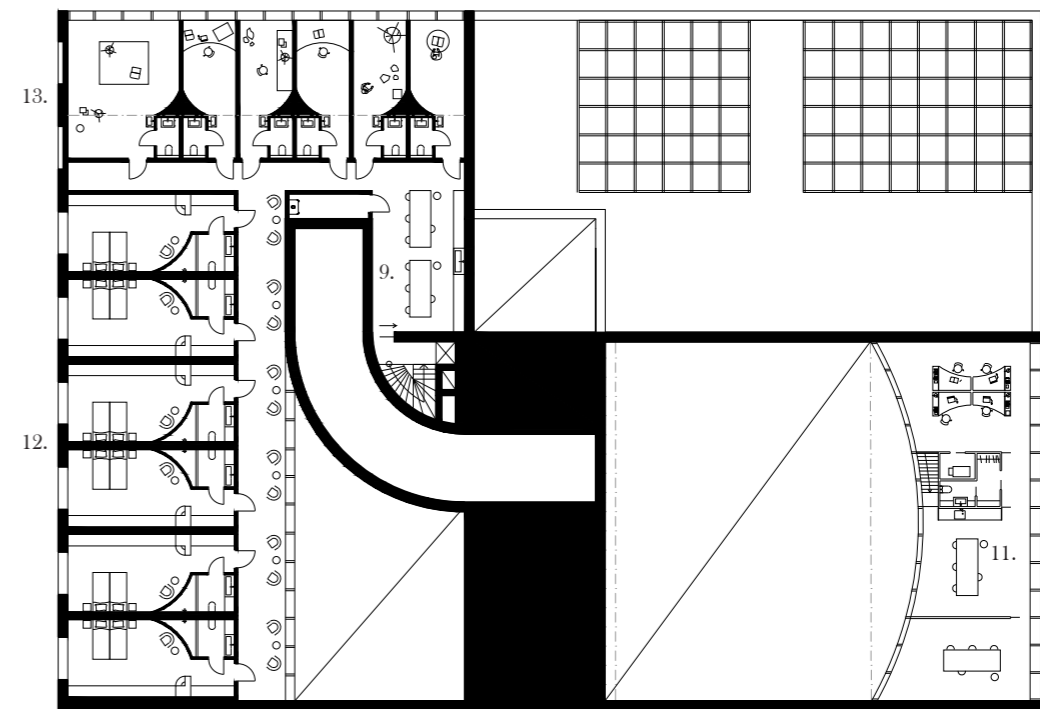
* All paraphrases have been included in the design, the ones highlighted are illustrated in the view (left).

PLAN



First Floor

- | | | | |
|----|-------------------|-----|-----------------|
| 1. | Lobby | 6. | Water reservoir |
| 2. | Cast room | 7. | Exhibition |
| 3. | Oven | 8. | Restaurant |
| 4. | Workshop | 9. | Kitchen |
| 5. | Outdoor workspace | 10. | Storage |

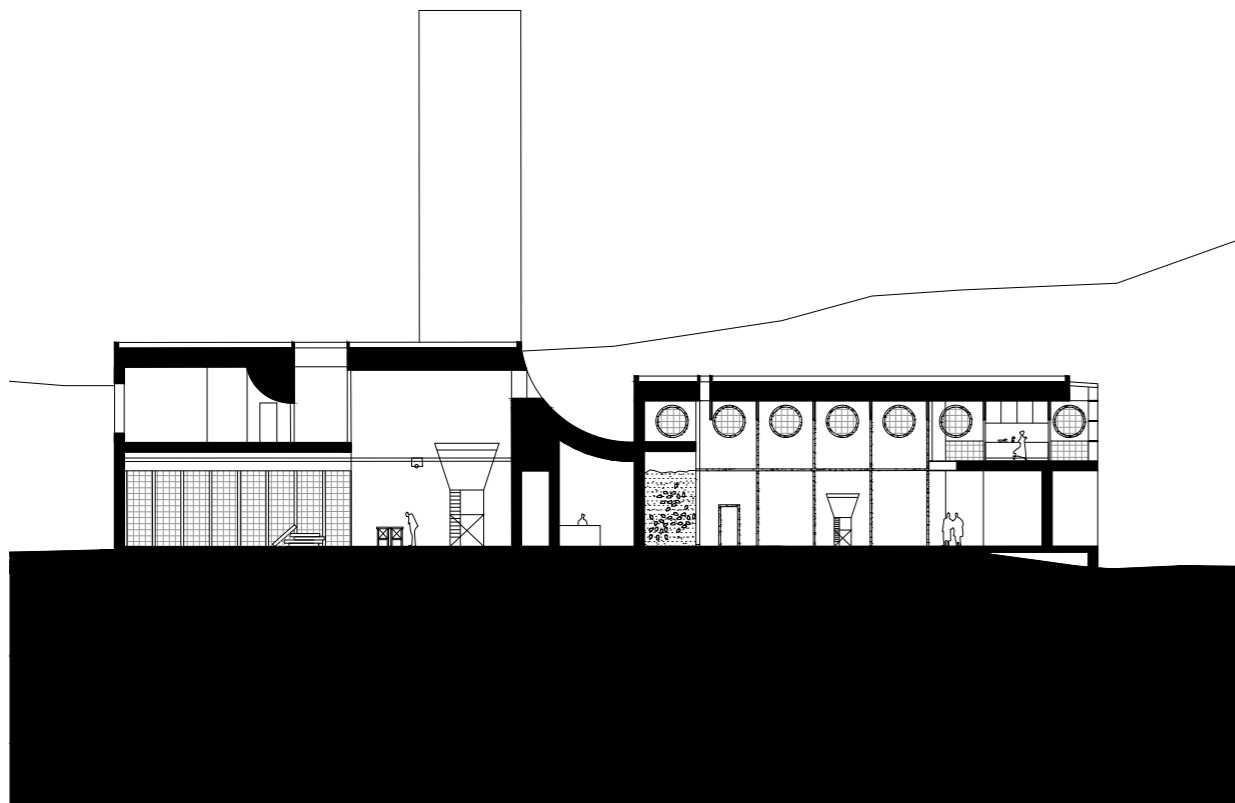
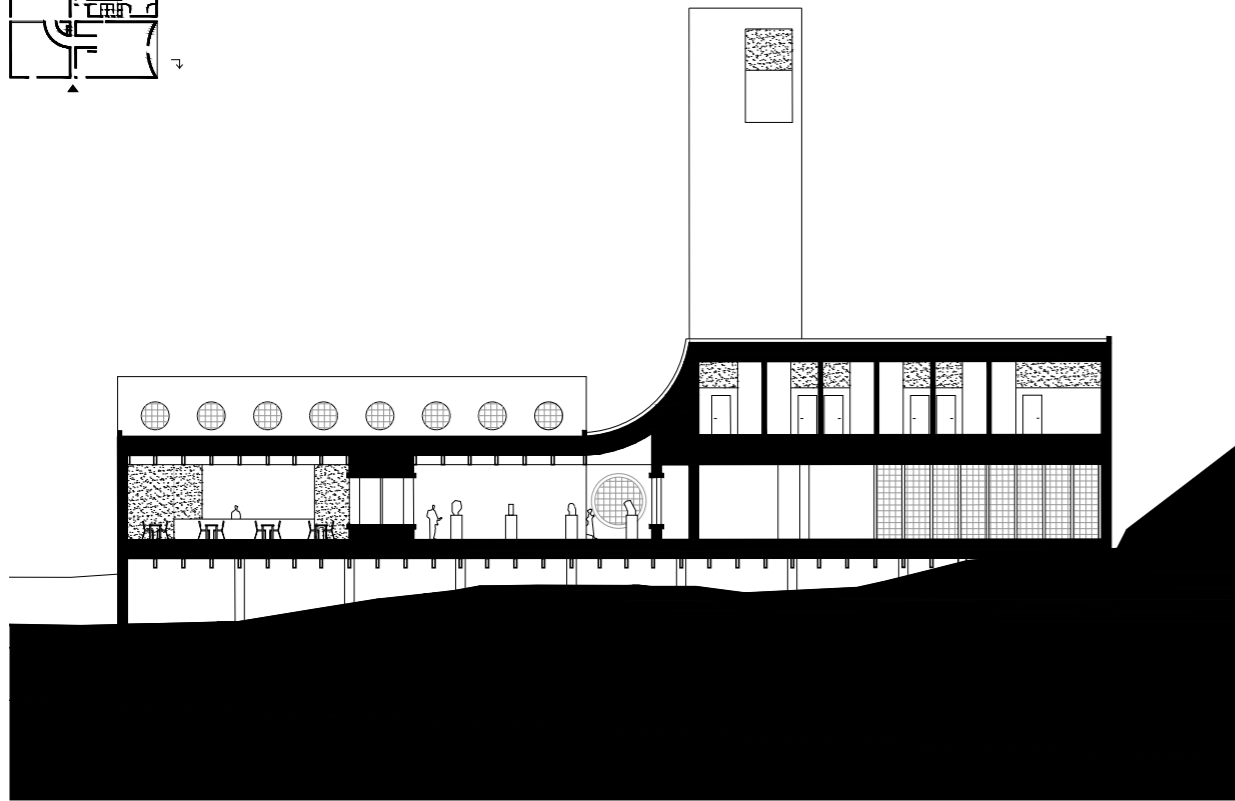
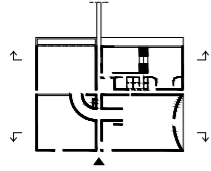


Second Floor

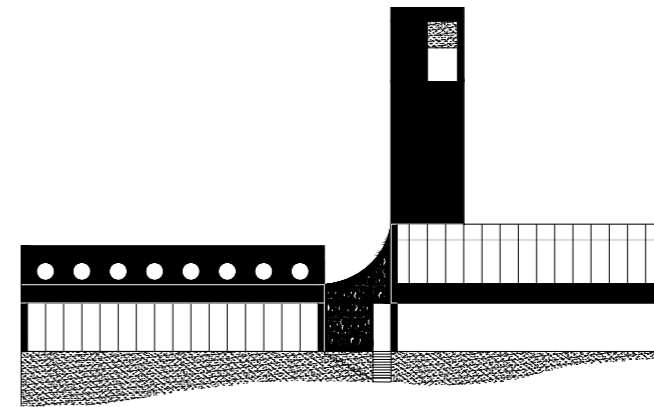
- | | |
|-----|---------------|
| 11. | Office |
| 12. | Accomodations |
| 13. | Studios |



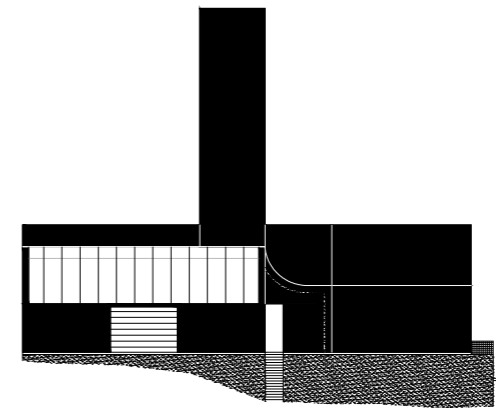
SECTION



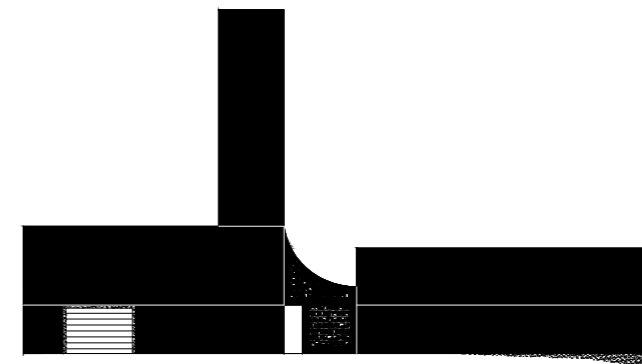
ELEVATION(S)



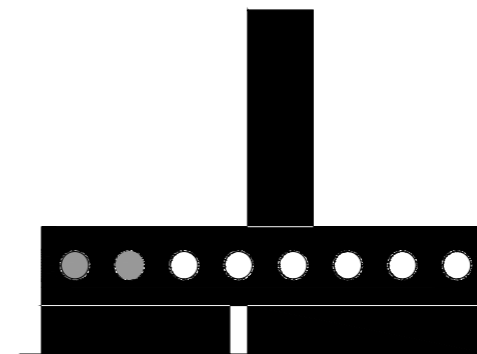
West



North

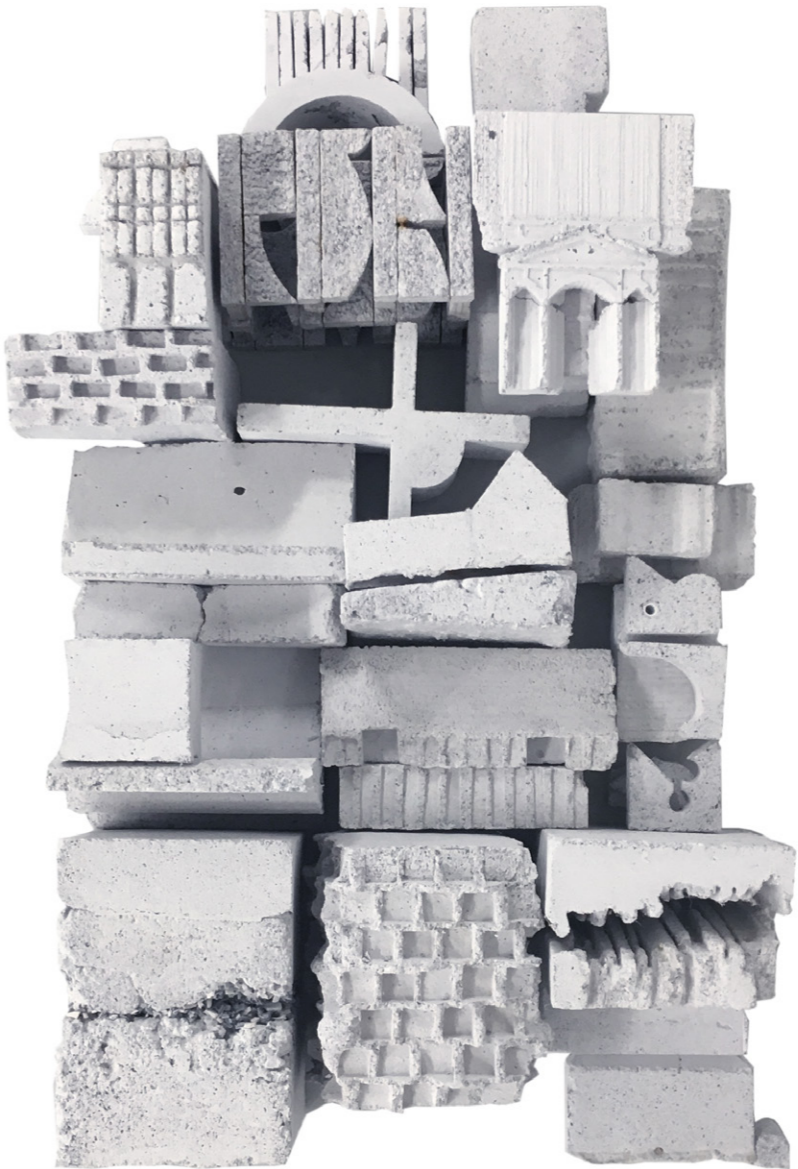


East

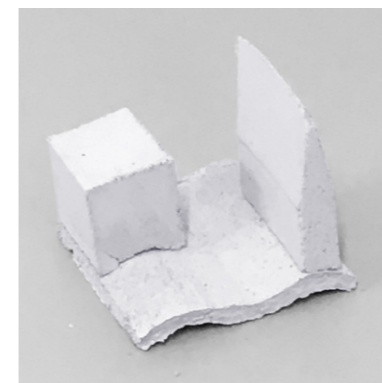
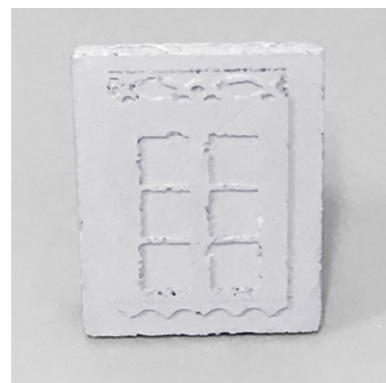
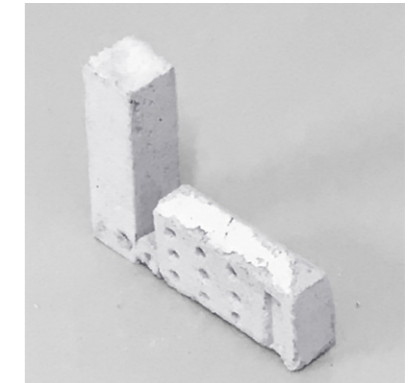


South

MODELS



PARAPHRASES

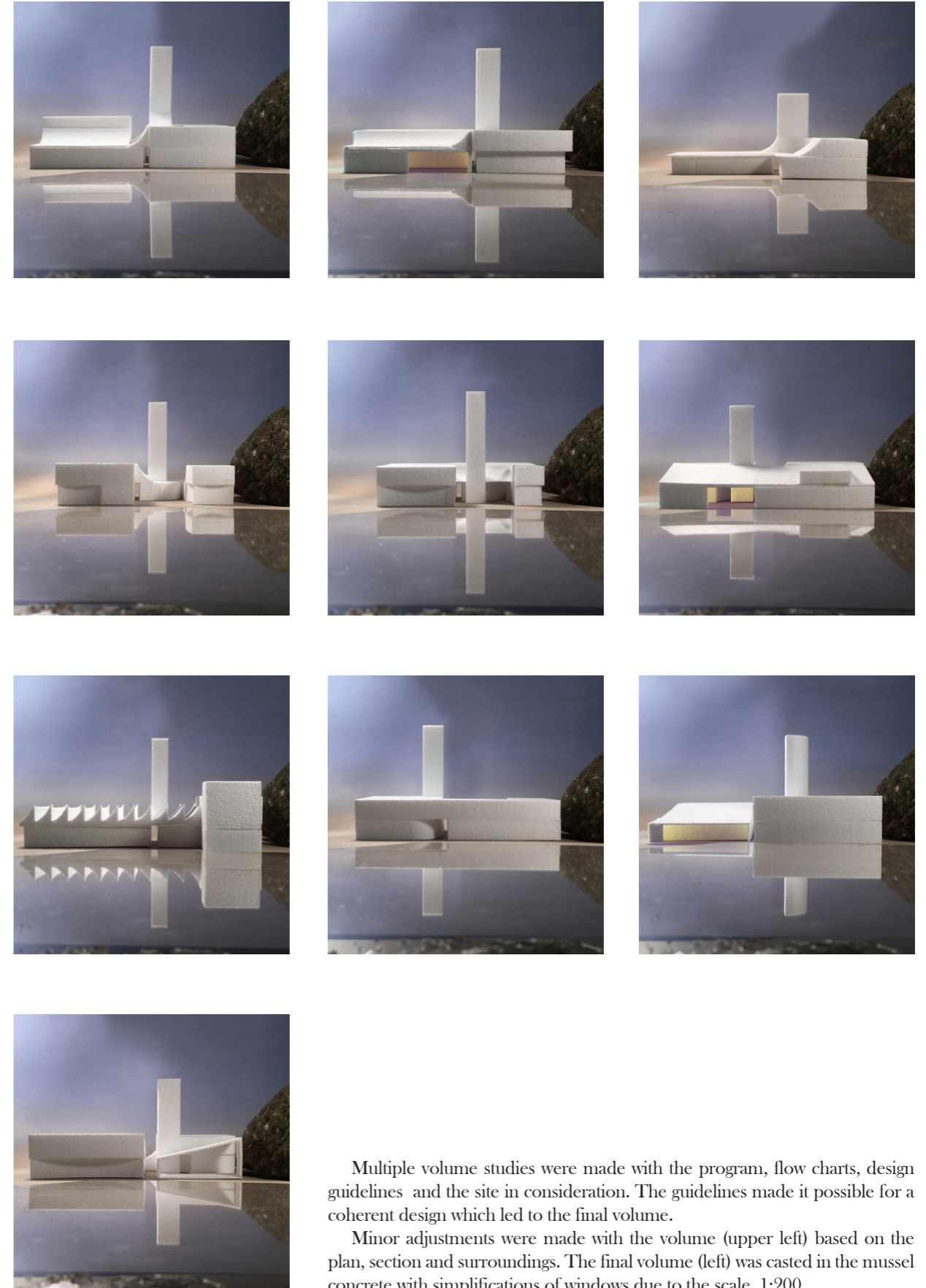


Selected paraphrases that represented the references in their essence were chosen for casting. The material for the castings were also a test in which variations of mixtures were made; course and fine crushed shells. There were also testing in different casting method in search for a more tactile surface.

VOLUME



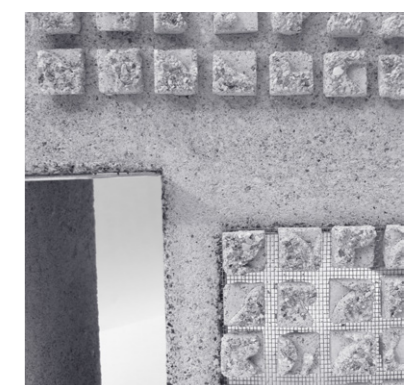
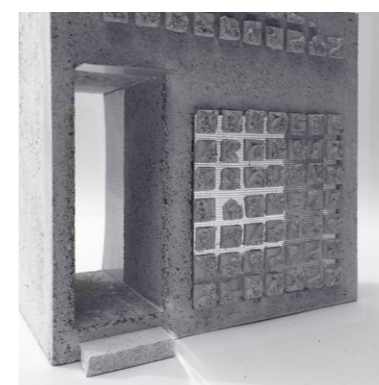
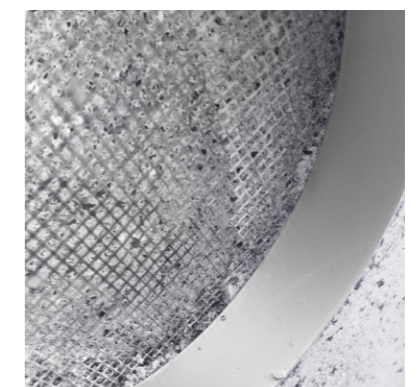
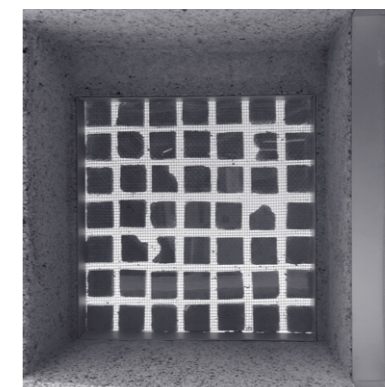
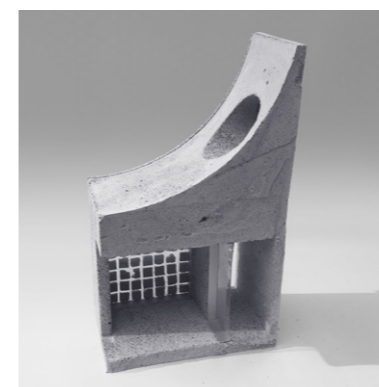
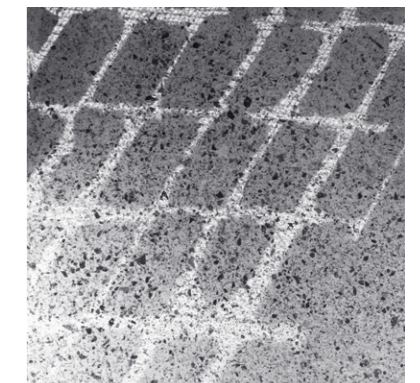
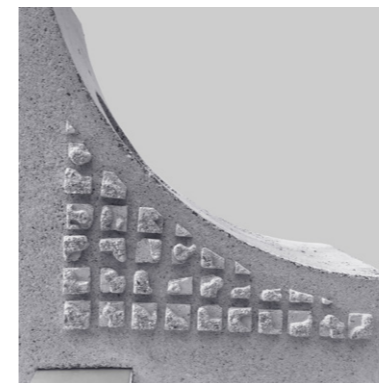
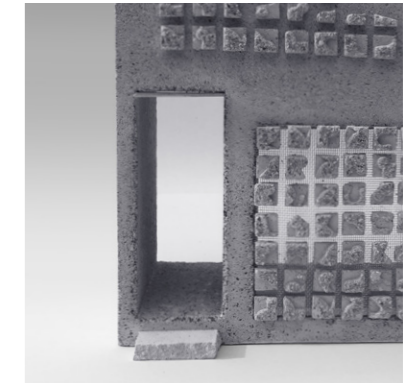
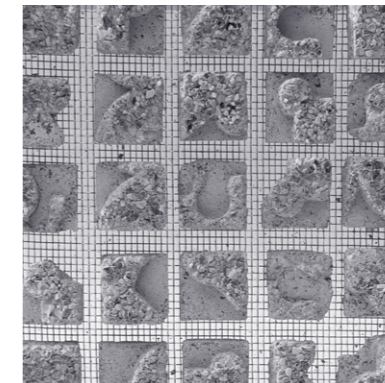
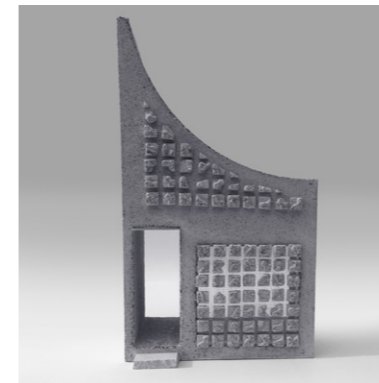
VOLUME STUDIES



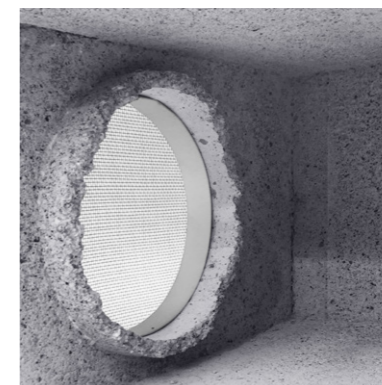
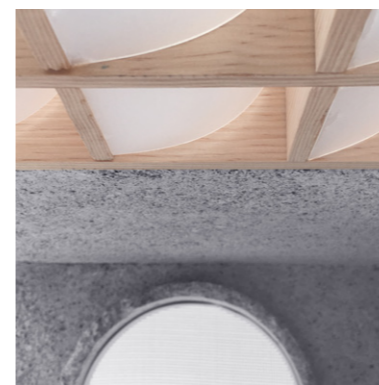
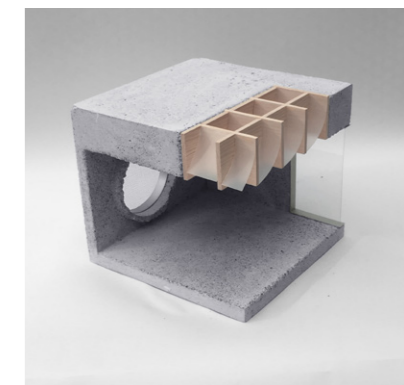
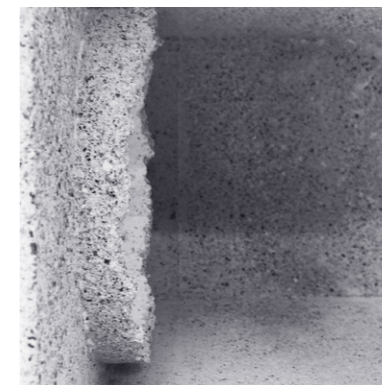
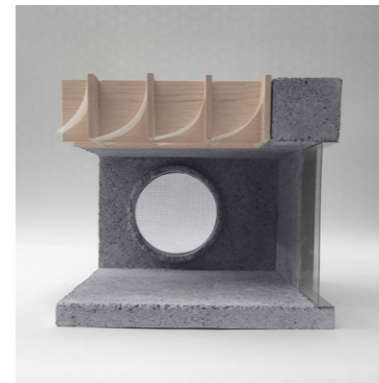
Multiple volume studies were made with the program, flow charts, design guidelines and the site in consideration. The guidelines made it possible for a coherent design which led to the final volume.

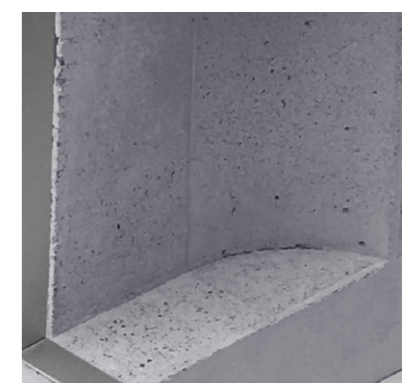
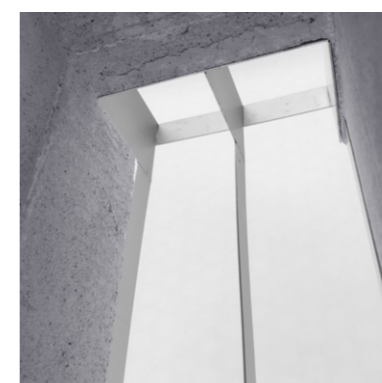
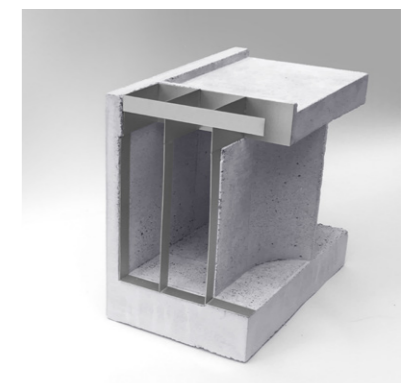
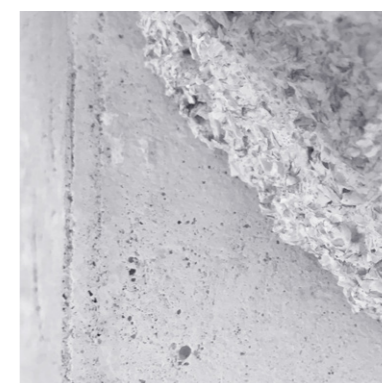
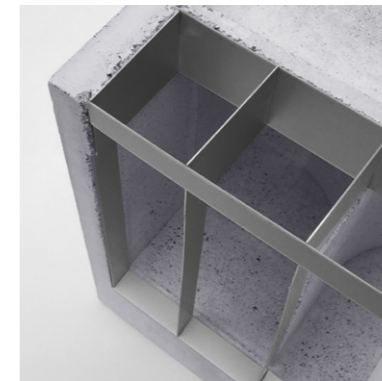
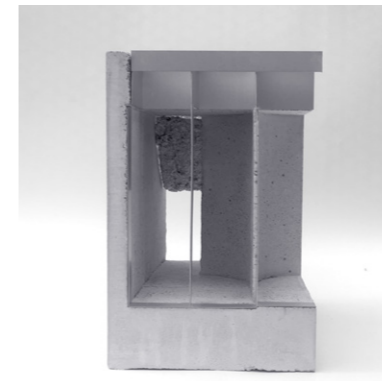
Minor adjustments were made with the volume (upper left) based on the plan, section and surroundings. The final volume (left) was casted in the mussel concrete with simplifications of windows due to the scale, 1:200.

1:20 ENTRANCE



1:20 EXHIBITION





CONCLUSION

This thesis is a research by design project which tries to represent regional nuances in the built environment of Bohuslän. It does so through the design of a small scaled mussel concrete plant in Klätta. The project has been undertaken with the intent to find, depict and reinterpret the regional style of Bohuslän by abstracting reference images through a method of paraphrasing and a local and unexplored material – mussel concrete. The initial intention was to make a concrete where both the binder and aggregation were replaced by mussel shells with the purpose of exploring the aesthetic qualities of the material. Early in the process it was discovered that it would not be possible to find an acceptable mixture for the binder using burnt mussel shells in the amount of time given, therefore the decision to use white cement was made. Mussel shells as a replacement for sand as aggregation were functional, the mussel-concrete does however seem to lose some of its constructive strength in comparison to concrete with sand, through a point of failure test the mussel-concrete approximately has the load bearing qualities of brick. The perks of mussel-concrete from our knowledge is primarily its aesthetic qualities and the usage of a raw material that other businesses have a problem to dispose of. Its aesthetic qualities and its possibilities of many variations in texture has been a driving force and a constant inspiration during the design of this project.

The projects interest in reference pictures derived from the bombardment of inspirational images taken out of context found on Pinterest or other equivalent sites. It questions how the choices of images may affect the end design and what possibilities that holds. In this case it strives for regionalism without being romantic but as a way of mixing local and historic design aesthetic with global tendencies. What this project proposes is an approach for a design strategy that explores traditional elements without copying them or trying to replicate a certain style. As an opposition to the many global tendencies of past and present we looked to the discourse of critical regionalism as a sound way of exploring regionalism. We have in this thesis cherry-picked the parts of critical regionalism that we agree with and avoided others, such as "rejects the whimsical individualism and ornamentation of Postmodern architecture". This project is not a critical regionalism project per se but departs from its way of thinking about the past and the present in designing. In regards to the quote by Paul Ricoeur (that addresses the conflict between being modern and at the same time being able to return to one's roots), that Frampton used to describe critical regionalism is re-phrased into "the conflict between being contemporary and at the same time being able to return to ones roots", the method used in this project made that conflict into a conversation rather than two things being in opposition to one another. The essence of the method which is letting the input (local and historic) go through the architect and become something new, with the original intent/essence still present, it helps to fulfill the basics for critical regionalism - trying to bridge the gap backward in time without being devoured by it.

The strong point of this thesis is its method of using reference images and re-working them which in turn leads to a constant flow of inspiration. In terms of whether the design of the project shows regional characteristics can of course be questioned. The method used in Nuance would benefit to be applied on variation of scales and programs. A different choice of region would also further build a layer of complexity to the method and would bring a stronger argument for the case. In conclusion we do however think that the project shows a subjective aesthetics but the usage of local reference images is the main reason for the shapes, form and materiality and therefore regional nuances can be seen in the final design.

STUDENT BACKGROUND

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Werne, F., & Östnäs, S. (1983) *Bygge i Bohuslän. Södertälje: Wahlström&Wikstrand*

Lefavre, L., & Tzonis, A. (2003) *Critical Regionalism: (Architecture and Identity in a Globalized World)*. New York: Prestel

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Crudeli, A. (2018) *Beyond Critical Regionalism. A conversation with Kenneth Frampton*. Retrieved 2019-11-07 from <https://www.centoventigrammi.it/kenneth-frampton-interview/>

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Grillner, K. (1994) *Från Postmodernism till Kritisk Regionalism - En längtan efter menigsbärande arkitektur?*. Retrieved 2020-02-26 from <http://arkitekturforskning.net/na/article/viewFile/722/667>

Figure 01 - 06. Werne, F., & Östnäs, S. (1983). *Bygge i Bohuslän*. Stockholm, Sverige: Wahlström & Widstrand

Figure 07. Unknown/ Bohusläns museum (1950). Familjegrupp på veranda Skär 1:1 Skee sn. UMFA53046:0002 [Image]. Retrieved 2019-10-07 from <https://digitaltmuseum.se/011014289584/umfa53046-0002>

Figure 08. Kjellén, A. (2020). *Carlstens fästning*.

Figure 09 - 10. Werne, F., & Östnäs, S. (1983). *Bygge i Bohuslän*. Stockholm, Sverige: Wahlström & Widstrand

Figure 11. Unknown/ Bohusläns museum (1895 - 1905). Reinholdska villan från hamnen. UMFA53278:0309 [Image]. Retrieved 2019-10-07 from <https://digitaltmuseum.se/011014338115/enligt-text-som-medfoljde-bilden-reinholdska-villan-fran-hamnen>

Figure 12. Werne, F., & Östnäs, S. (1983). *Bygge i Bohuslän*. Stockholm, Sverige: Wahlström & Widstrand

Figure 13. Bohusläns museum (1940 - 1950). Smögen. UMFA53489:0051 [Image]. Retrieved 2019-10-07 from <https://digitaltmuseum.se/011014348413/text-pa-kortet-smogen>

Figure 14. Andersson, U./Bohusläns museum (1977). Bohusläns samhälls- och näringsliv. 2. STENINDUSTRIN. UMFA54360:0459 [Image]. Retrieved 2020-02-01 from <https://digitaltmuseum.se/011014430540/bohuslans-samhalls-och-naringsliv-2-stenindustrin-film-14-text-som-medfoljde>

Figure 15. Skoglund, G. /Bohusläns museum (1950 - 1960). UMFA55076:0665 [Image]. Retrieved 2020-02-01 from <https://digitaltmuseum.se/011014498735/umfa55076-0665>

