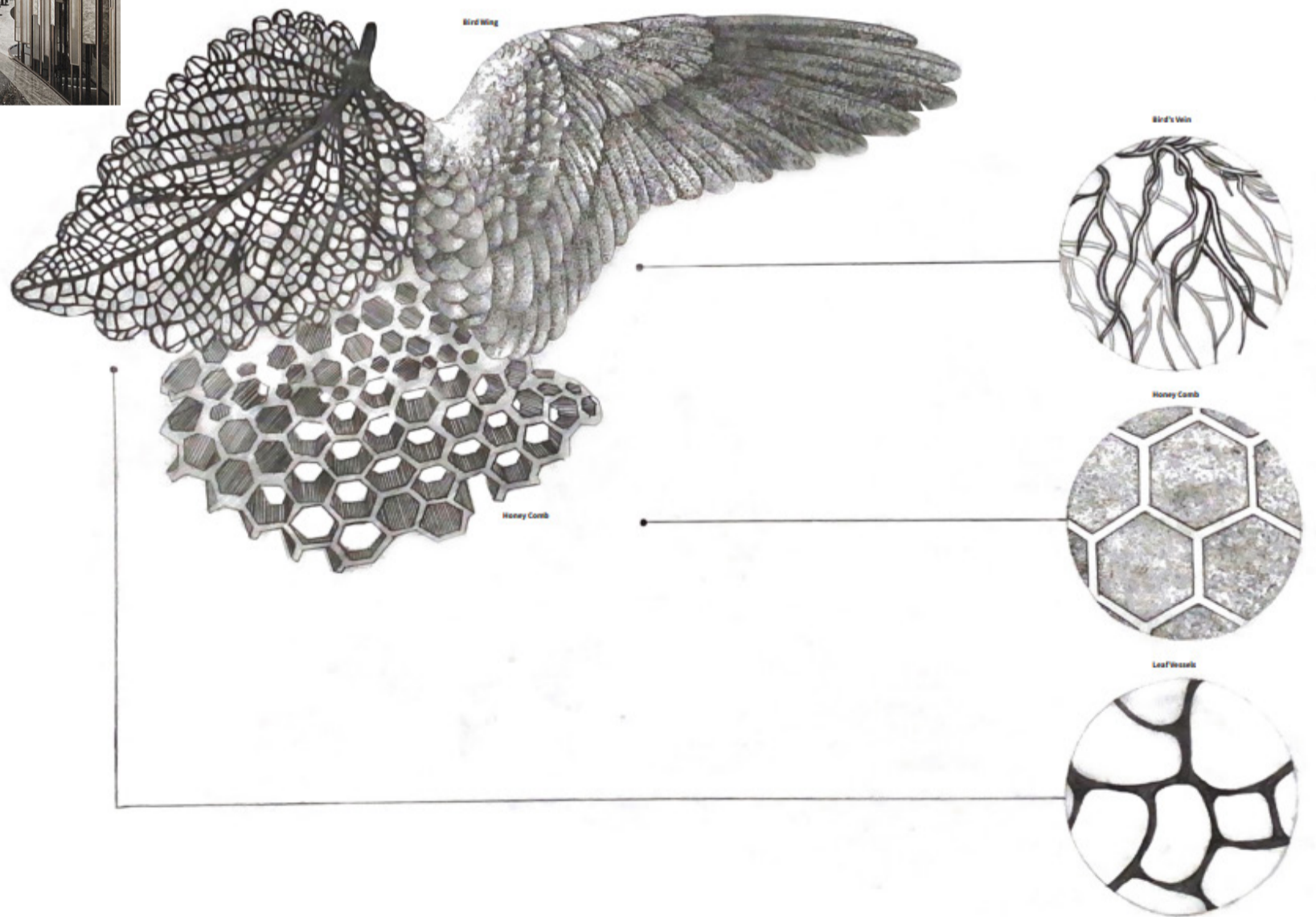


Voronoi Alien Column - Cruise Ship



Natural Inspiration - Design Process



Natural Selection / Patterns on Site

Insider to be more organic with the form that he took back at the natural objects that have on my site visit. Leaves, honey comb, and birds were very common on the site. I have started to go in depth with the patterns that these objects have. I had to play around with the design by combining all the patterns together.

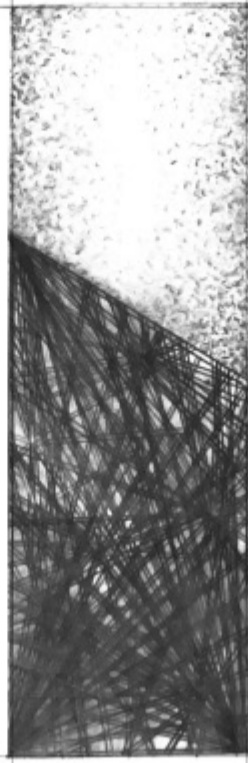
Design Process - Pushing the 3D printer's potential.

Standard 3D Printer Patterns

Conservation Solution / David Chipperfield's
Neuen Museum

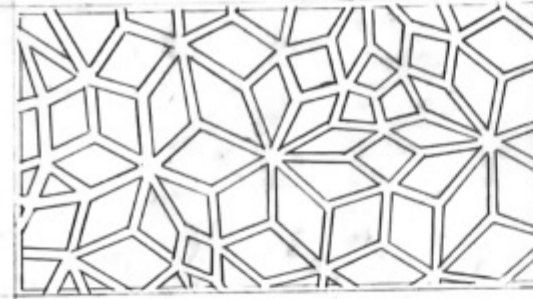
Column

Combination of 3 Patterns / 3D Printer Patterns

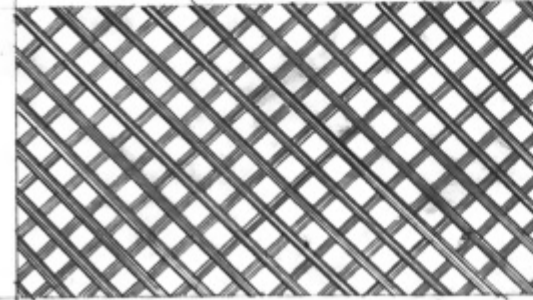


in elevation drawing

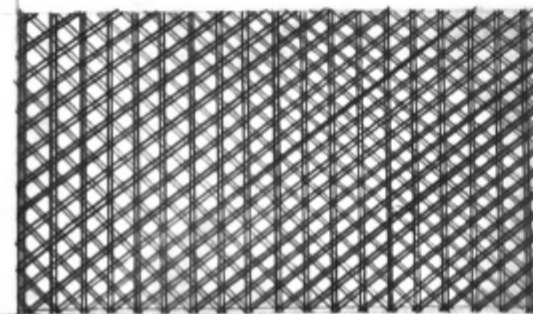
Pattern 1



Pattern 2



Pattern 3



3D Printer Patterns / Straight Lines

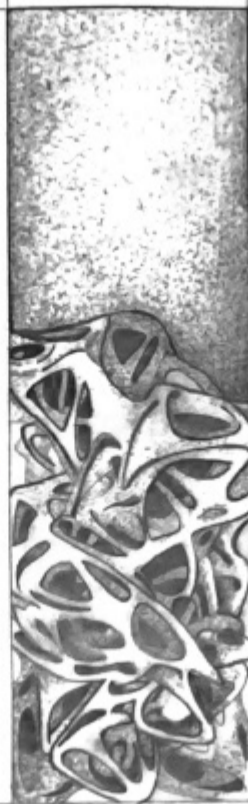
I have looked into the most common patterns (Straight Lines) that the 3D Printers can create to help me understand the potential/limitations of the patterns. This will also help me understand in depth of how these structures are formed which will allow me to create functional designs.

My version of 3D patterns

Conservation Solution / David Chipperfield's
Neuen Museum

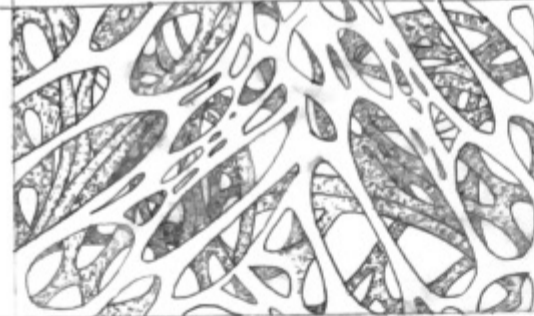
Column

Combination of 3 Patterns / 3D Printer Patterns



in elevation drawing

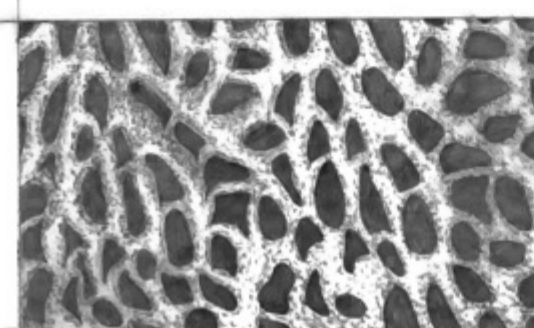
Pattern 1



Pattern 2



Pattern 3



3D Printer Patterns / Organic Lines

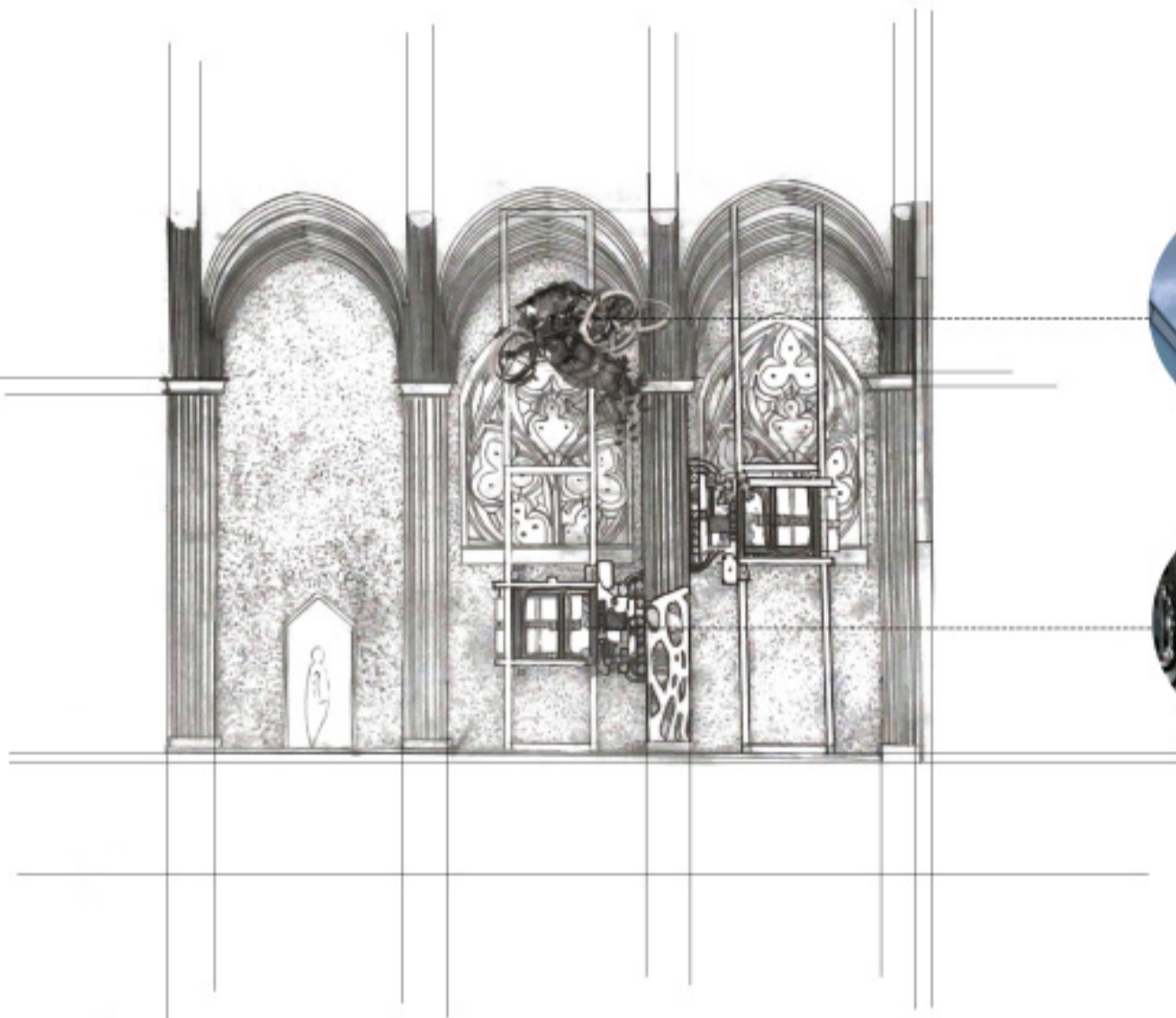
I have looked into the most common patterns (Organic Lines) that the 3D Printers can create. This helped me understand that the organic form can create sustainable forms as long as the parameters of the design is calculated. This also allowed me to think about the functionality of the pattern, and made me question if the inside of the structure could be hollow, etc?

Design Process - Iteration

Inspiration and Research

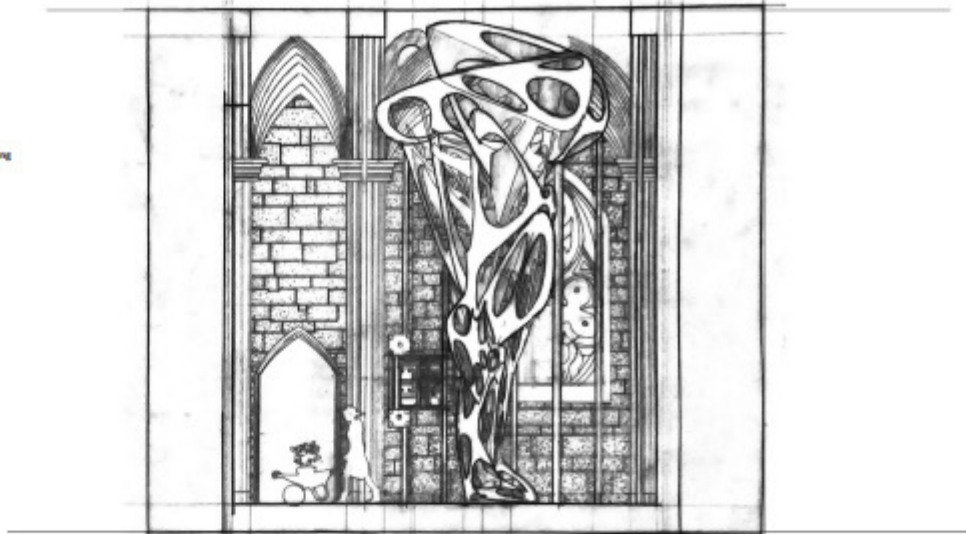


Application of Research to the Design



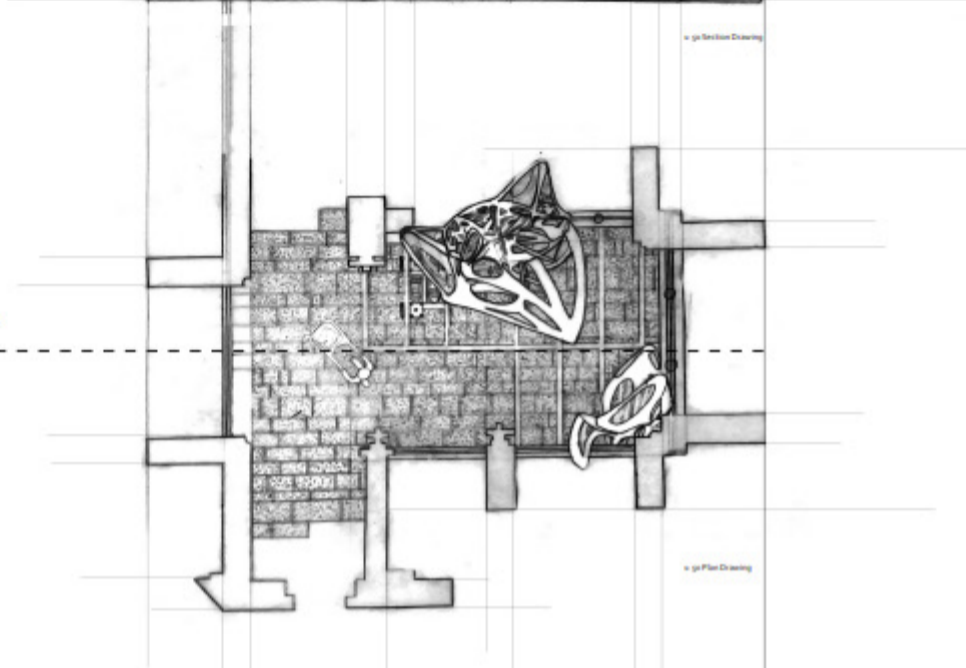
Design Process - Final Stage

Section Drawing



Plan Drawing

SectionCut



Drawings of the Iteration 3

I have transformed the sketches of the iteration 3 into actual drawings on site. This allowed me to add more detail to design on site to merge with the gothic style. I have also placed the X-Ray version of the iteration 3 to show the hollow forms of the design.

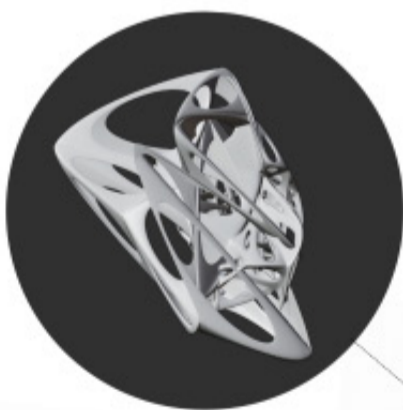


X-Ray Elevation to show the hollow form.

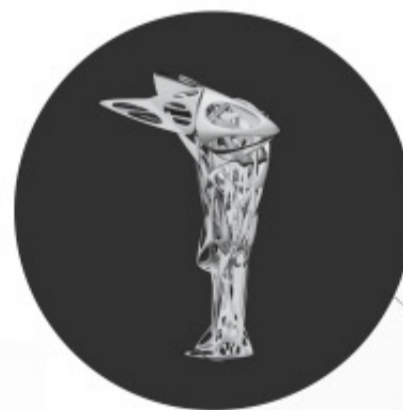


X-Ray Plan to show the hollow form.

Plan



Elevation



Sketch of the Iteration 3



Sketch of the Iteration 3



X-Ray Drawing



Botanist taking care of the plants.

X-Ray Drawing

Iteration 3 - Sketches

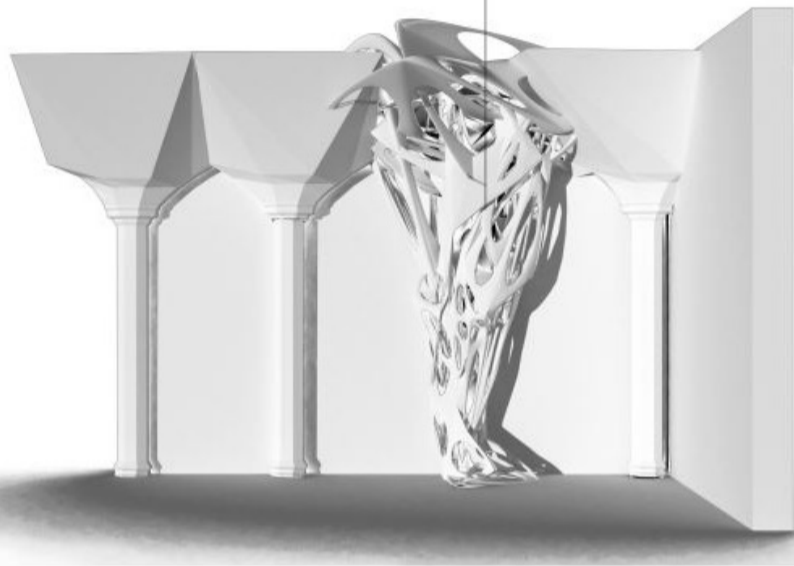
I have combined all my research and knowledge together which allowed me to start sketching out the grid iteration. I have developed the idea by connecting the various structure on the drawing and this will allow visitors to flow down from the hollow organic form leading to the plants. This enables self-sufficiency to the design with multifaceted solutions that supports the building as a column as well as a sustainable planter that brings the atmosphere from outside to the interior. Columns will be 3D printed by the 3D printing machines. Plants will be flying down to reach the higher parts of the column and a steady one that roots on the scaffolding grid.

Design Process - Rendering

3D Model of Iteration 3



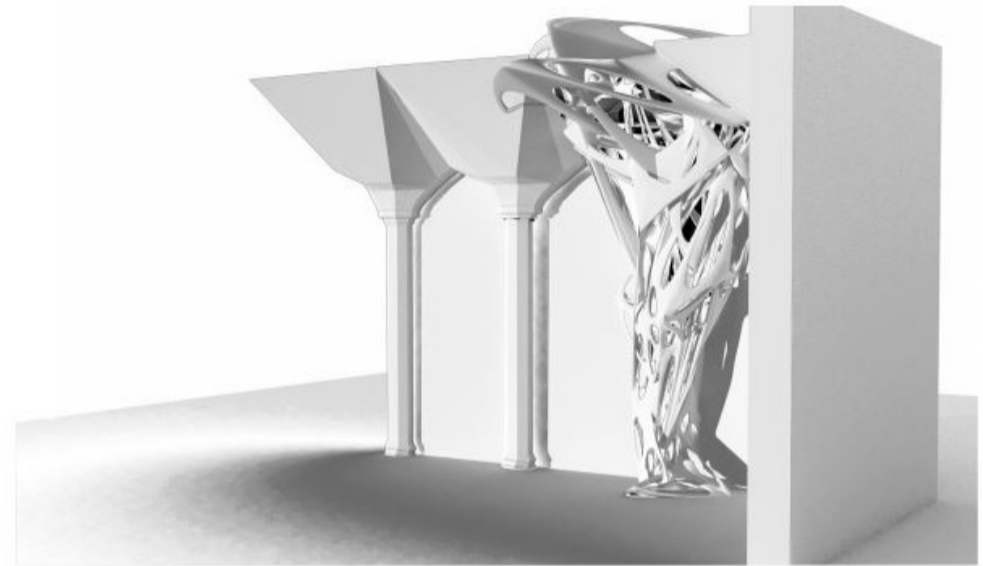
x: 50 Model



1:100 3D Printed Model of the Iteration 3



x: 50 3D Printed Model



Aliminium Texture applied to the design.



Perspective Wall Section of the Chapel room including Iteration 3



Drainage Connector

