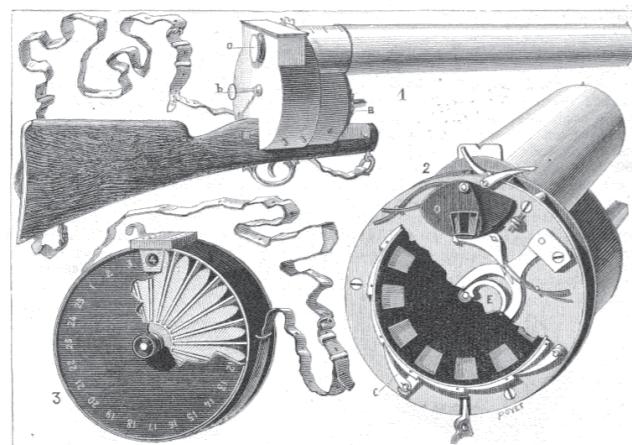
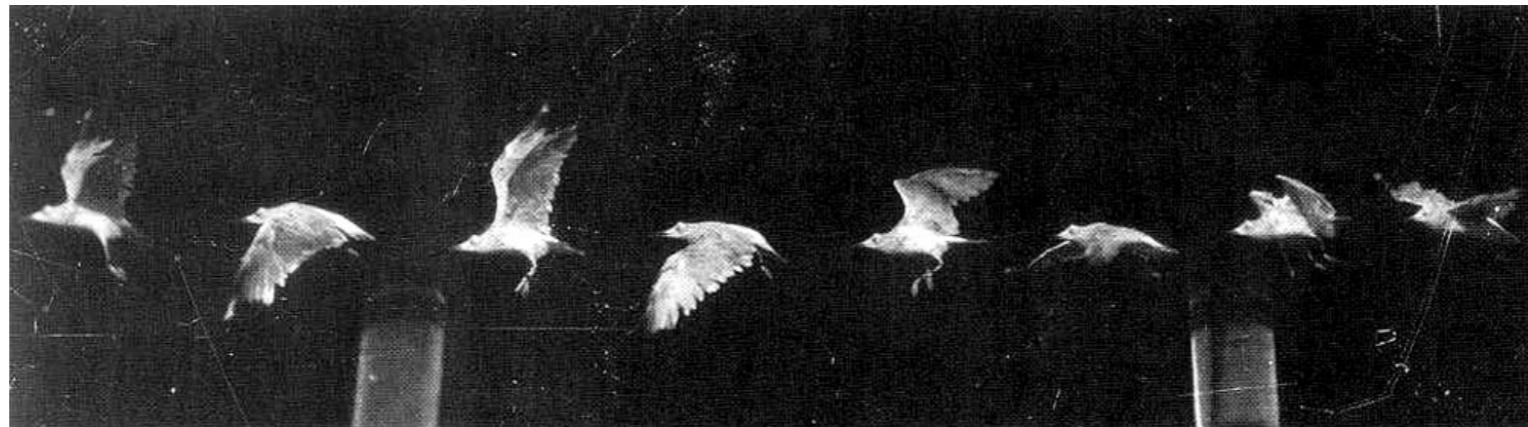




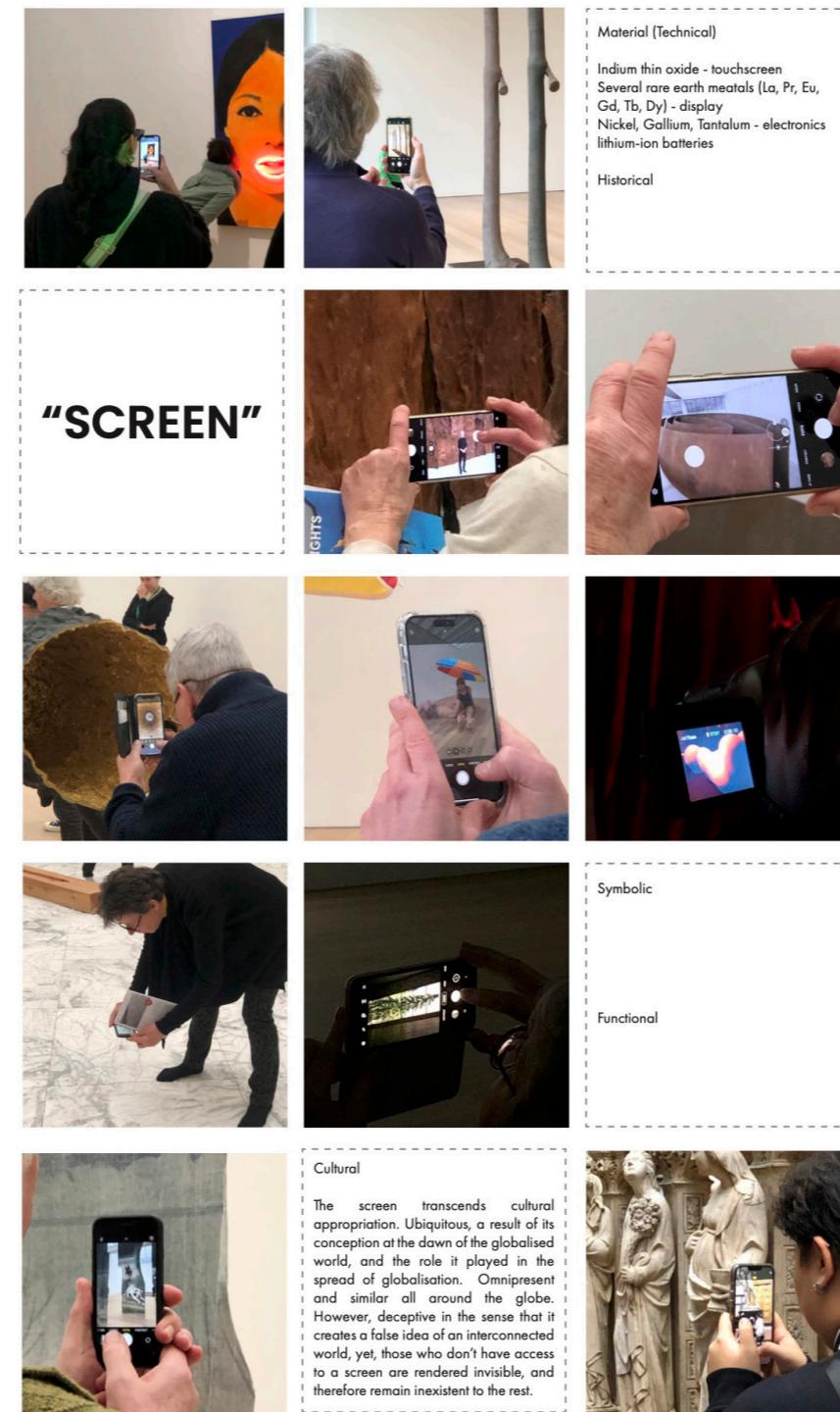
Architectural Translations
Spring Semester 2023

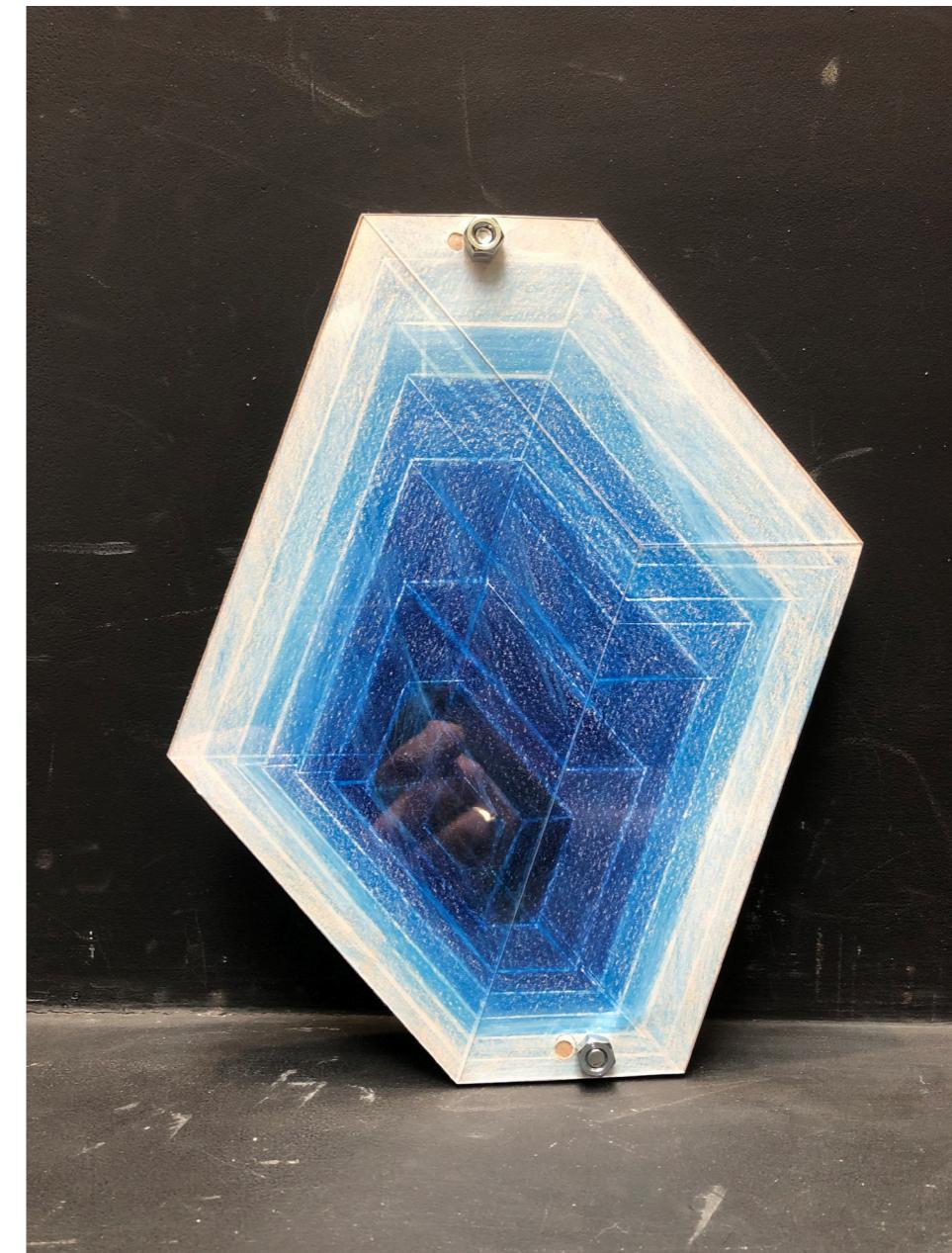
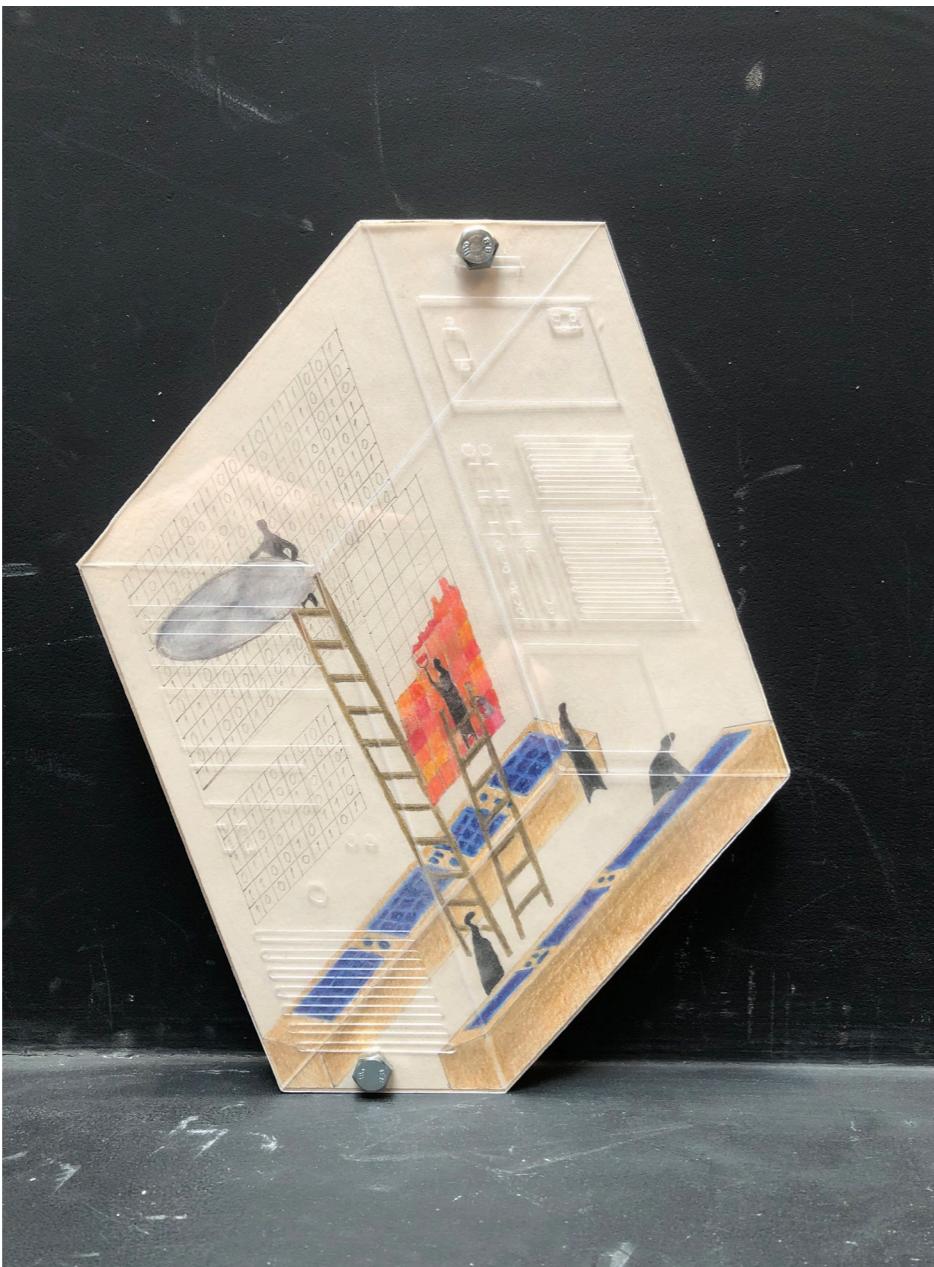


E.J. Marley's Chronophotographic Gun

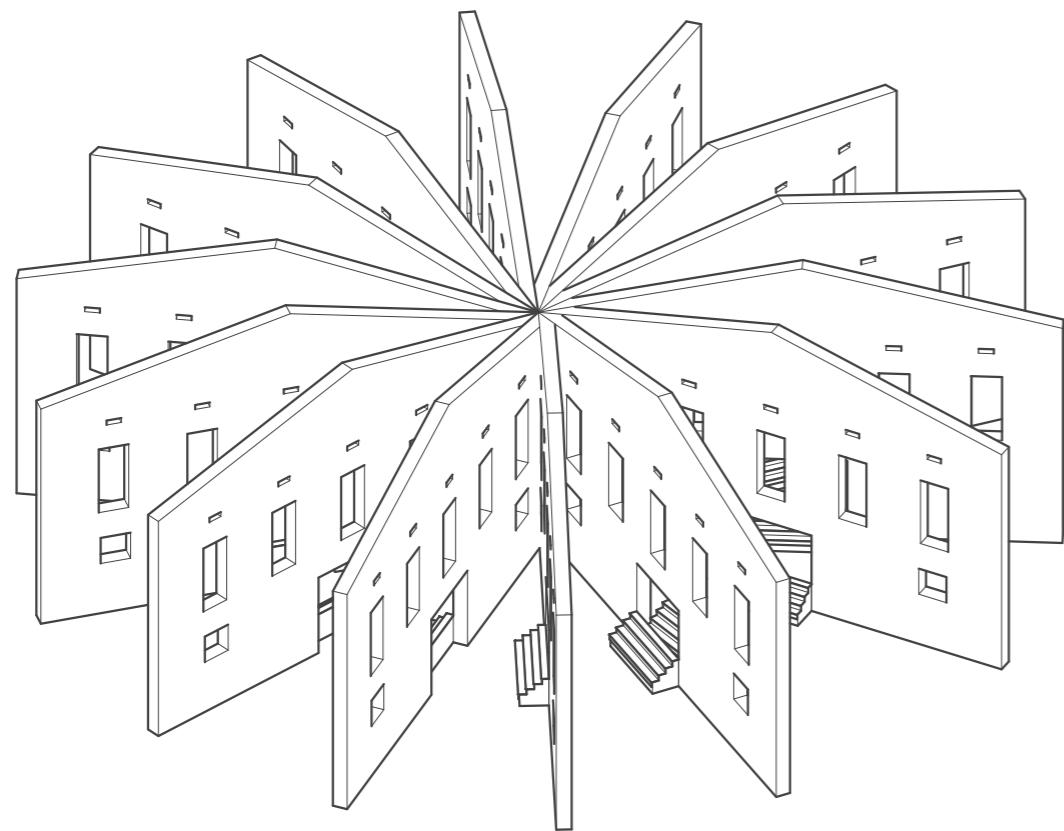
It started with a gun. A gun that could arrest a fleeting moment that the eye could not capture by itself. Point it at the sky and pull the trigger ... BAM! A glimpse of time shot dead and then dissected.

Ironically, I ended up chasing the same outcomes as E.J. Marley was in the late 19th century. However, this time around, the apparatus, originally used to investigate the surroundings, has become the object of interest.

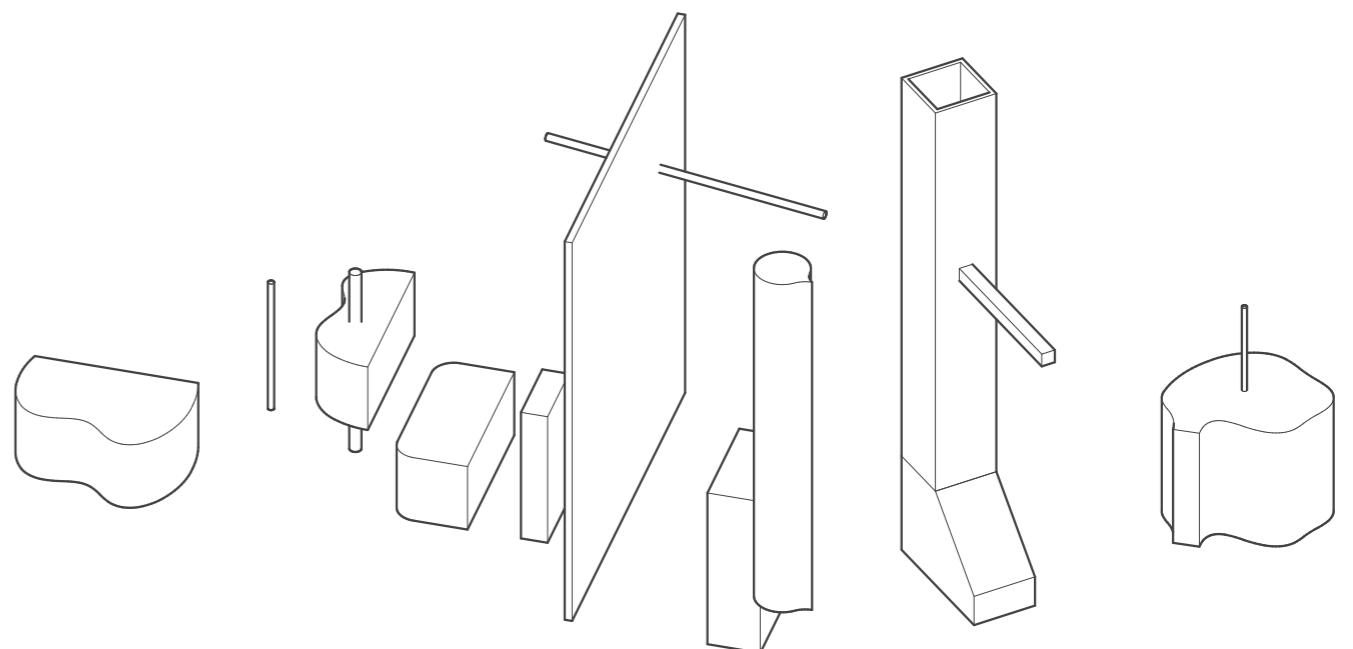




Inspired by Flusser's text I made a first attempt at 'elucidating the 'black box''. With very limited knowledge about how computers work, I wanted to create an abstract, physical representation of it. The caricature style of the front image is representative of my lack of knowledge about the processes that take place in the "black box". The hermetic nature is represented on the back side of the plaque. A sequence of abstractions that loses track at a certain level, hence the increased impermeability of each box. This notion is further enhanced by the screws that keep the plaque locked in place. An interesting paradox occurred. Even though I chose a Plexiglas finish, which is transparent in order to show what's inside, the physical act of screwing the layers in place retained the hermetic and enigmatic feeling surrounding the apparatus. Looking back on it, I realize this was an indication that I need to move on from the physical, or geometrical, in order to comprehend the hidden processes.

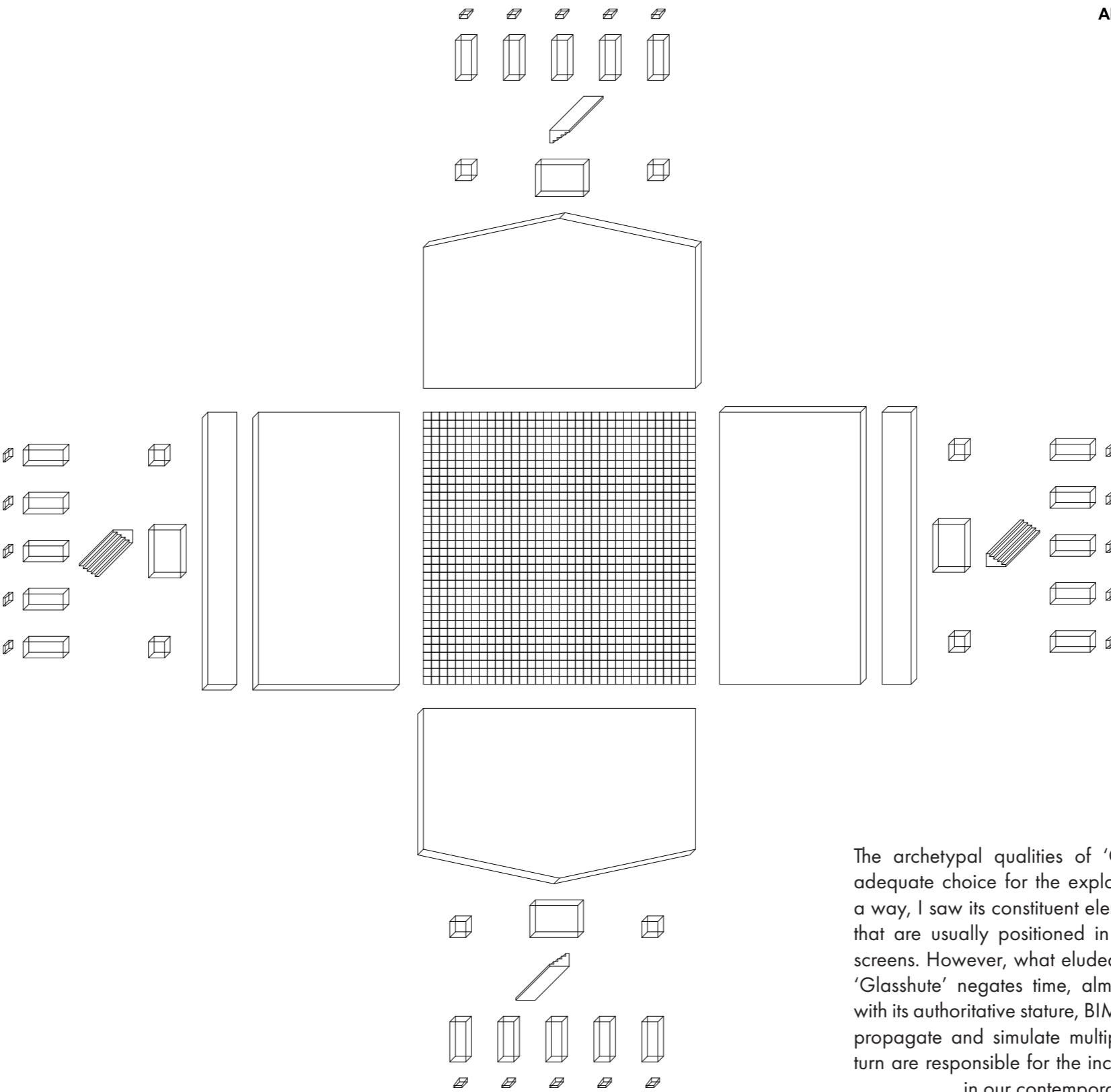
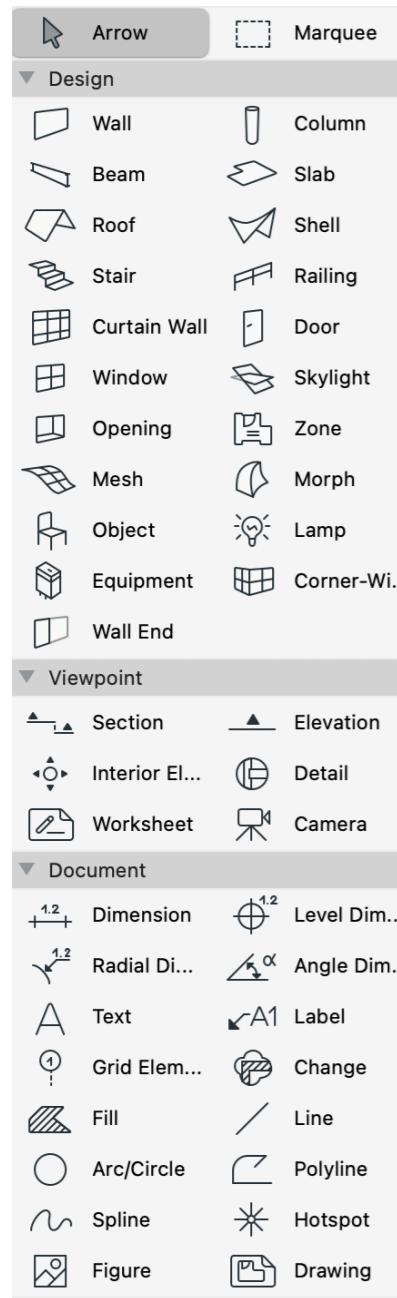


East-West-South-North Facade

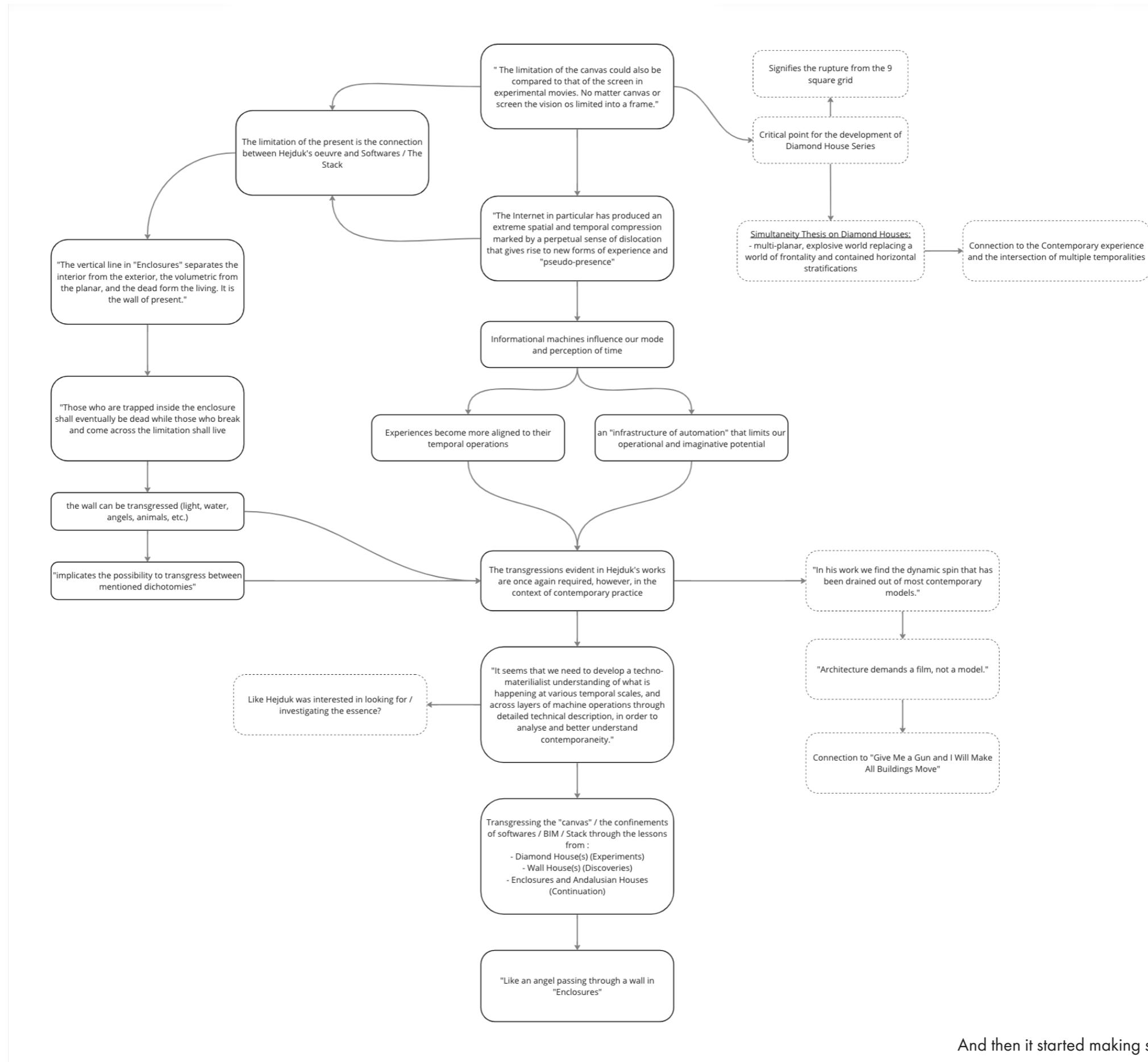


What Facade ?

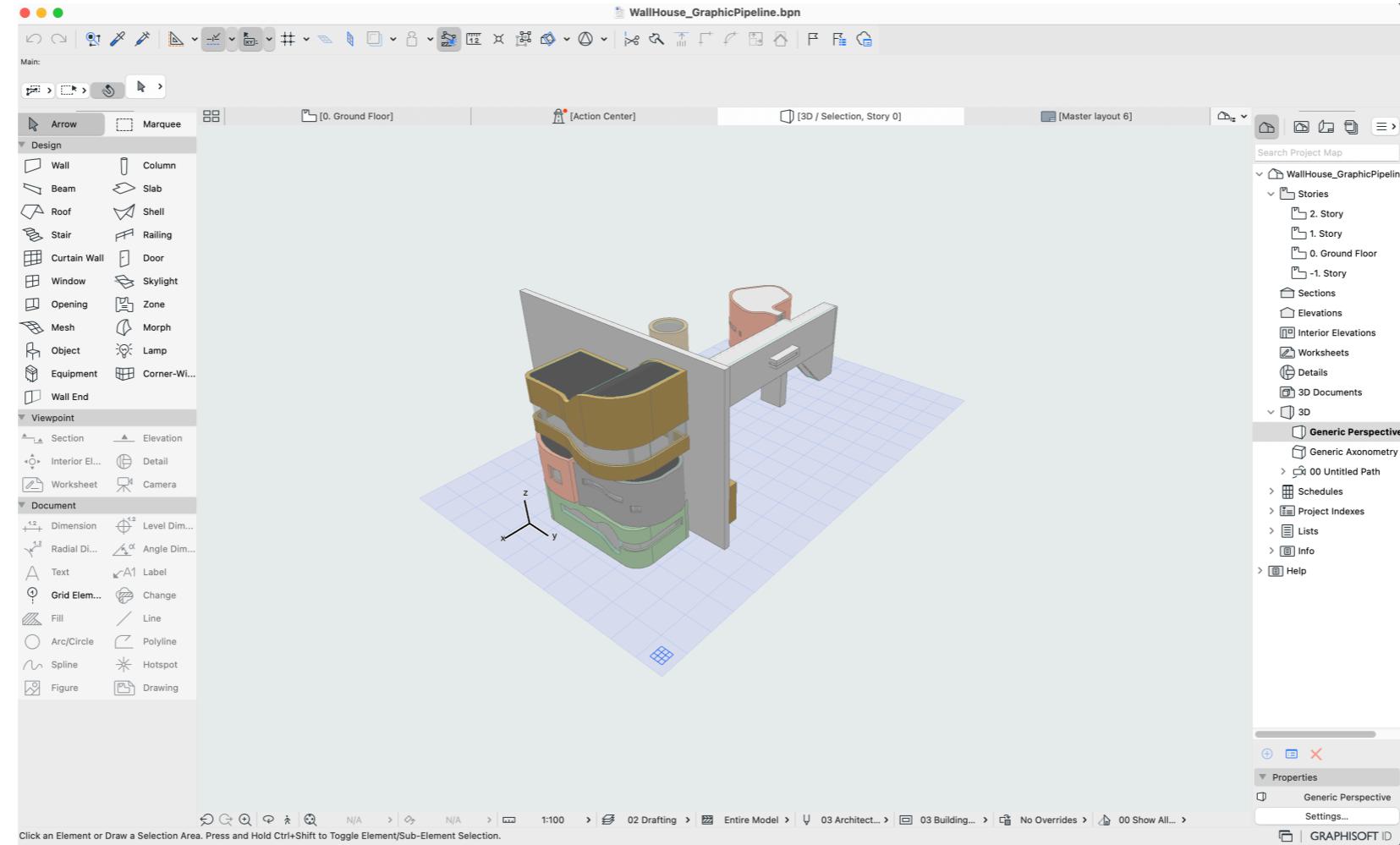
Somewhere between the introduction of the case studies
and the concept of 'Time' I got lost...



The archetypal qualities of 'Glasshute' seemed like an adequate choice for the exploration of BIM softwares. In a way, I saw its constituent elements as the building blocks that are usually positioned in the top left corner on our screens. However, what eluded me was the fact that while 'Glasshute' negates time, almost denying its progression with its authoritative stature, BIM softwares in the other hand propagate and simulate multiple (future) timelines and in turn are responsible for the increasing acceleration of time in our contemporary experience.



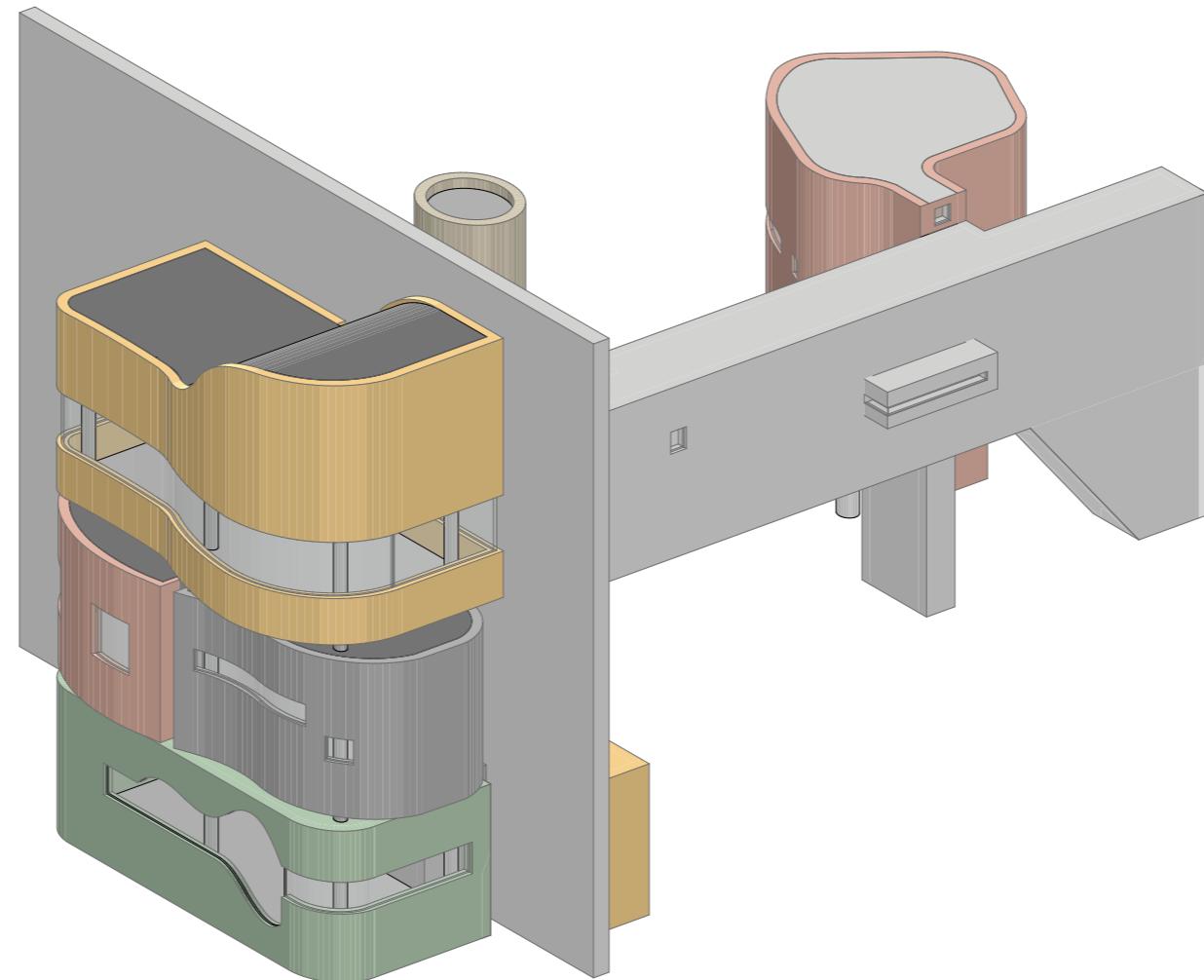
And then it started making sense.



To elucidate the black box I needed to transcend the geometrical and the screen, go beyond the visible and dive into the "Graphic Pipeline". The term is used to describe the steps that are executed by our 'black boxes' when producing the images which we treat as commodities. It is an essential process when it comes to gaining an adequate technomaterialistic understanding of contemporary practice. Following is a sequence of 'elucidations' that deconstruct the steps of the 'Graphic Pipeline'.

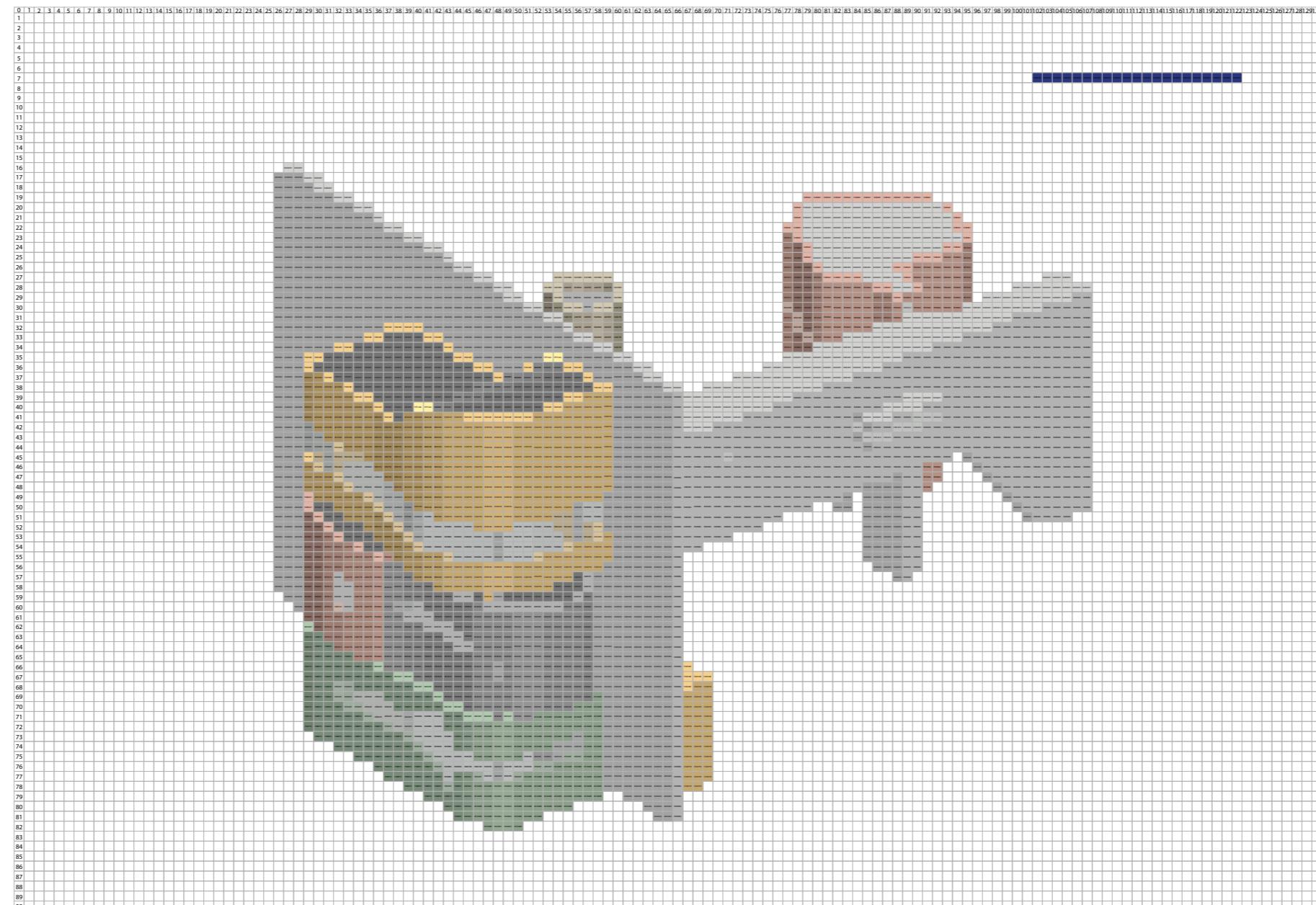
FRAMEBUFFER

ARCHICAD EDUCATION VERSION



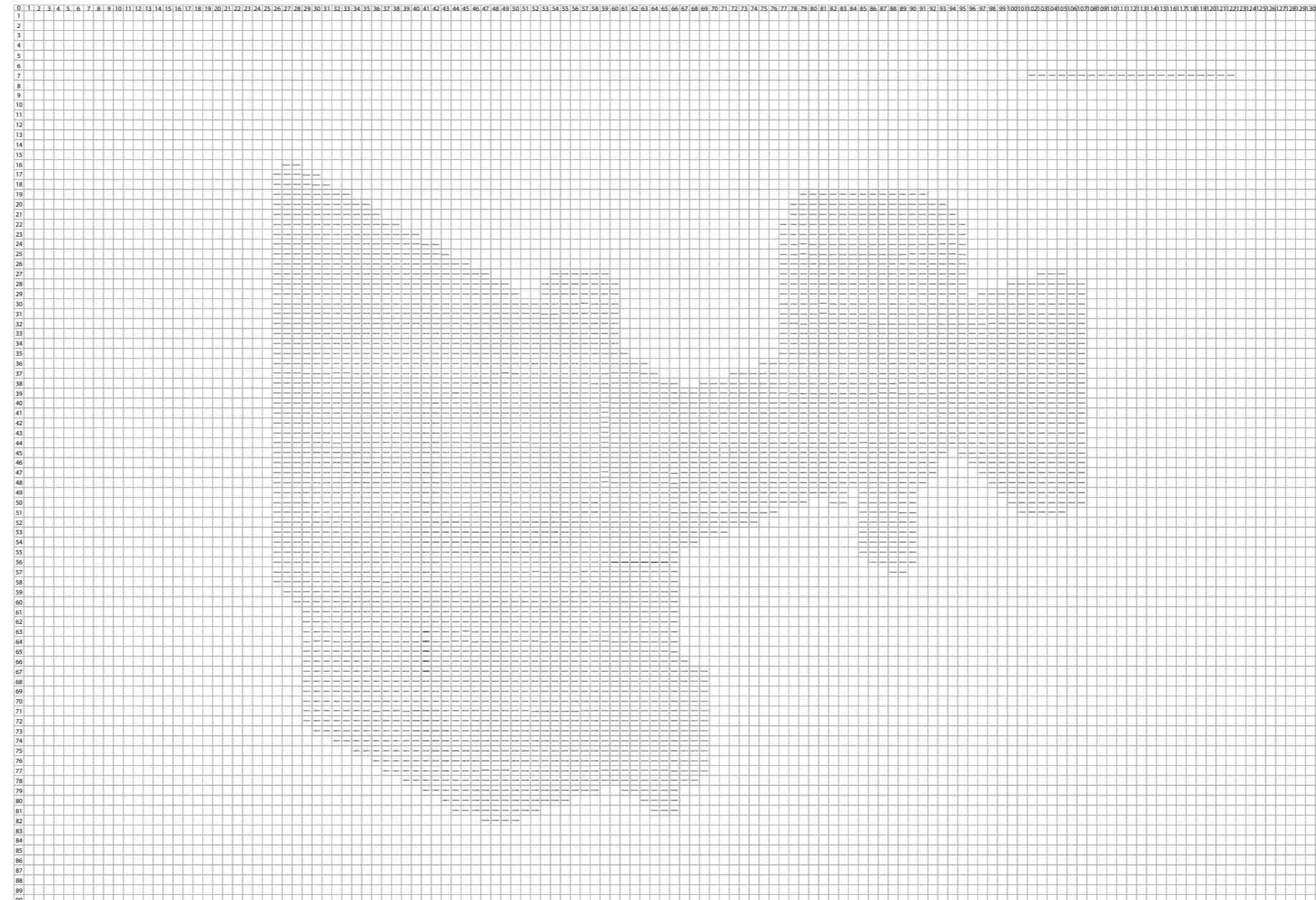
The final image that is produced on the screen, understandable
to the human eye.

FRAGMENT SHADER



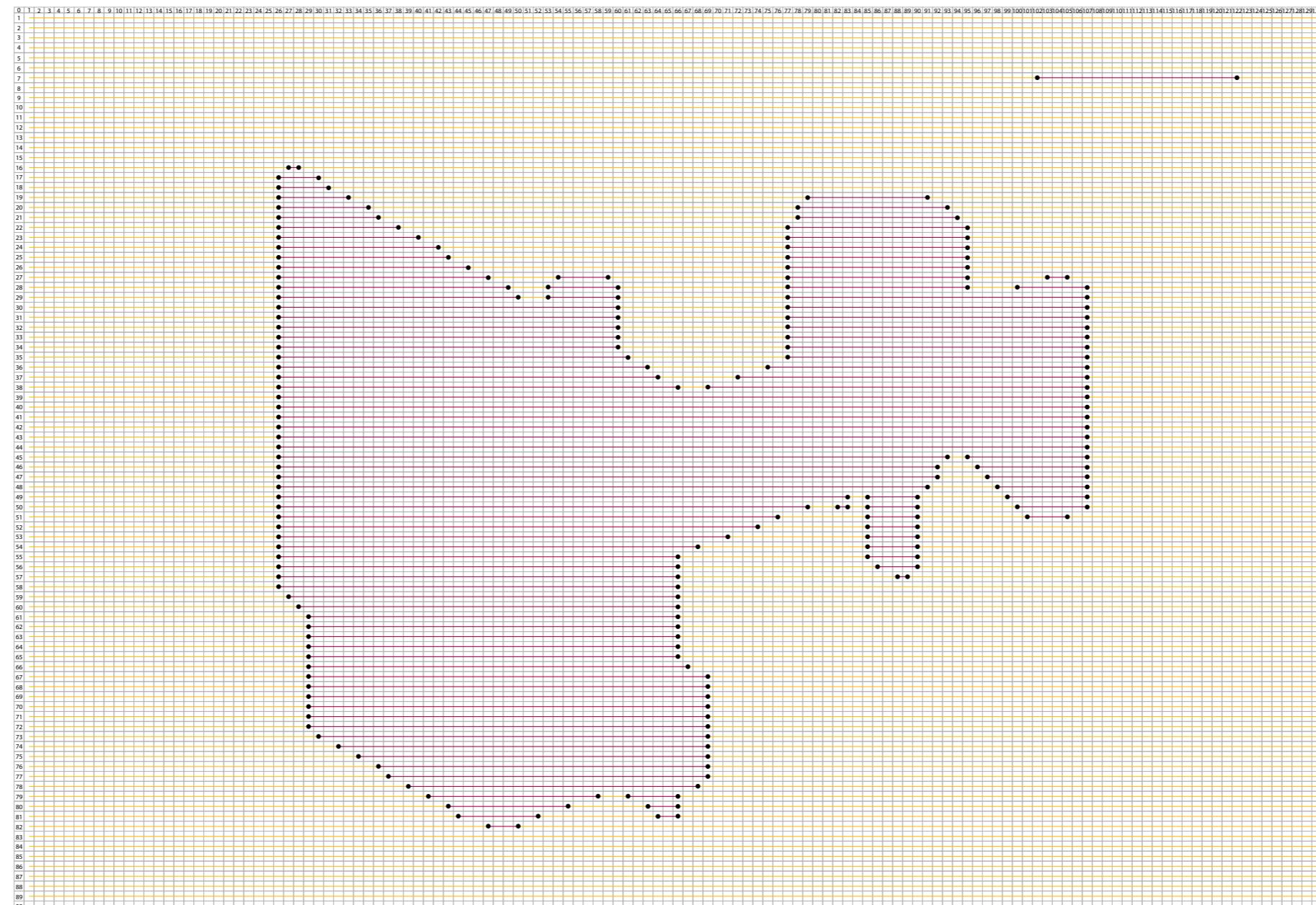
The assigned pixel values are transformed into electrical signals fed into the circuit of the screen.

RASTERISATION



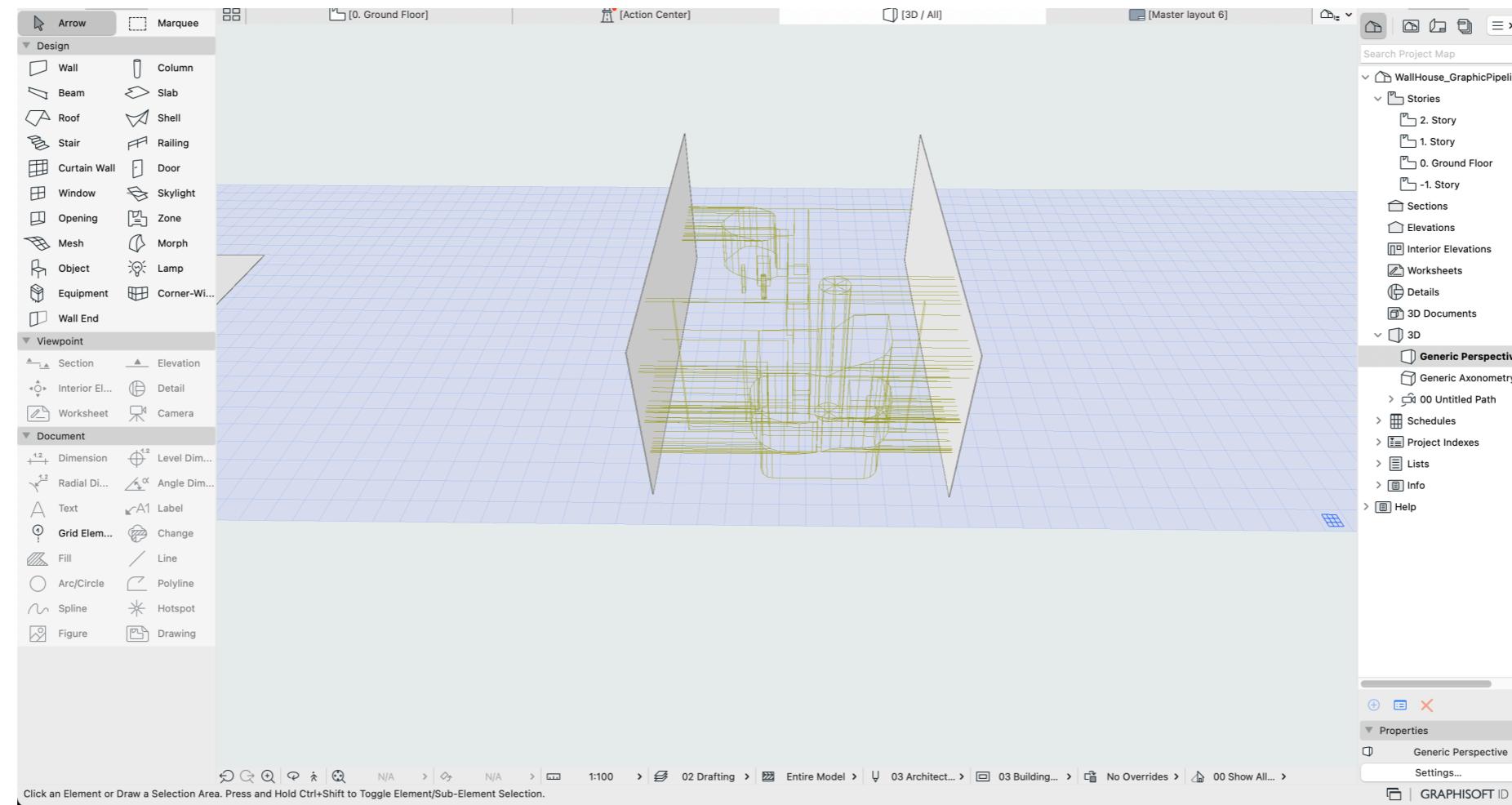
The detected pixels are assigned RGB values.

SCAN LINE RENDERING



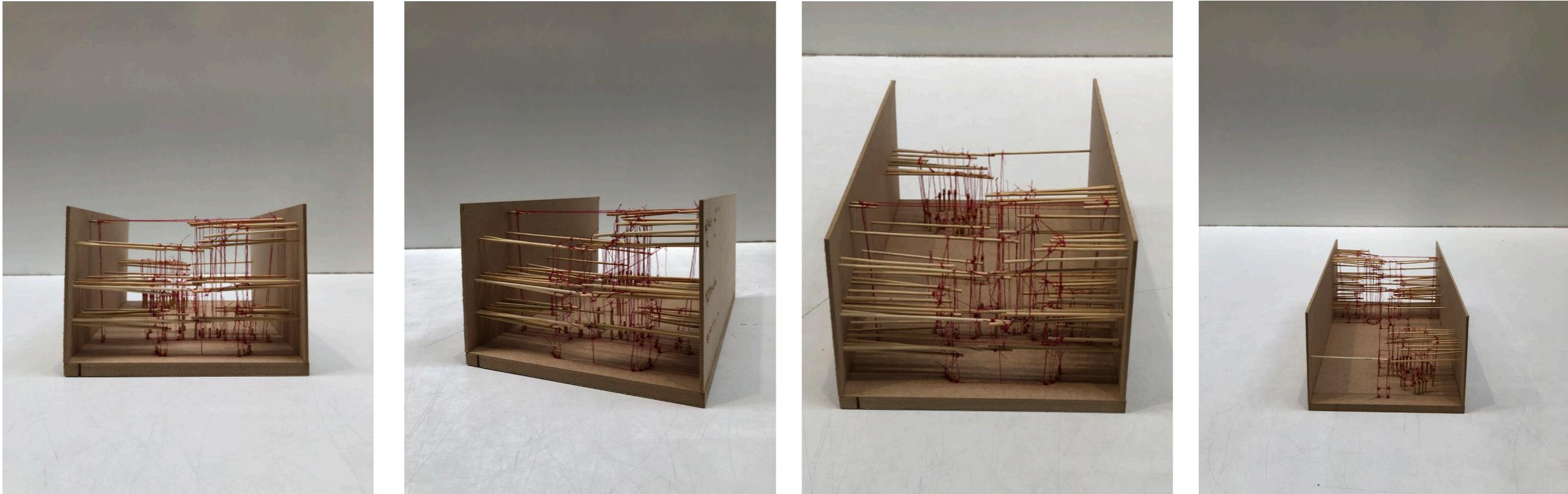
Each individual line on the pixel grid is scanned and pixels
are marked whether they should be filled or not.

VERTEX PROCESSOR



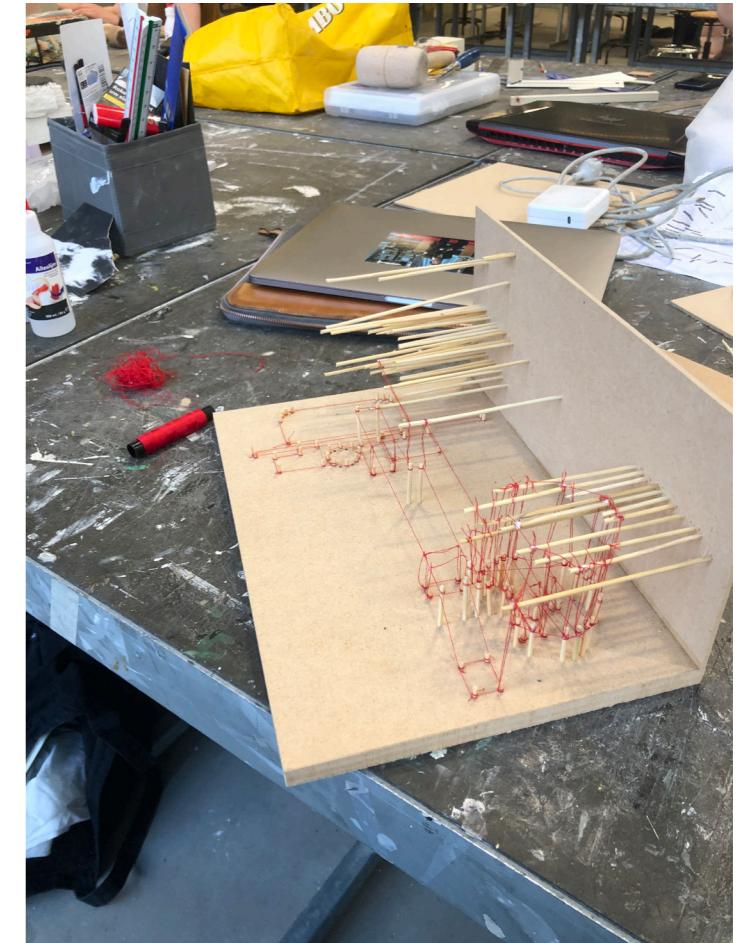
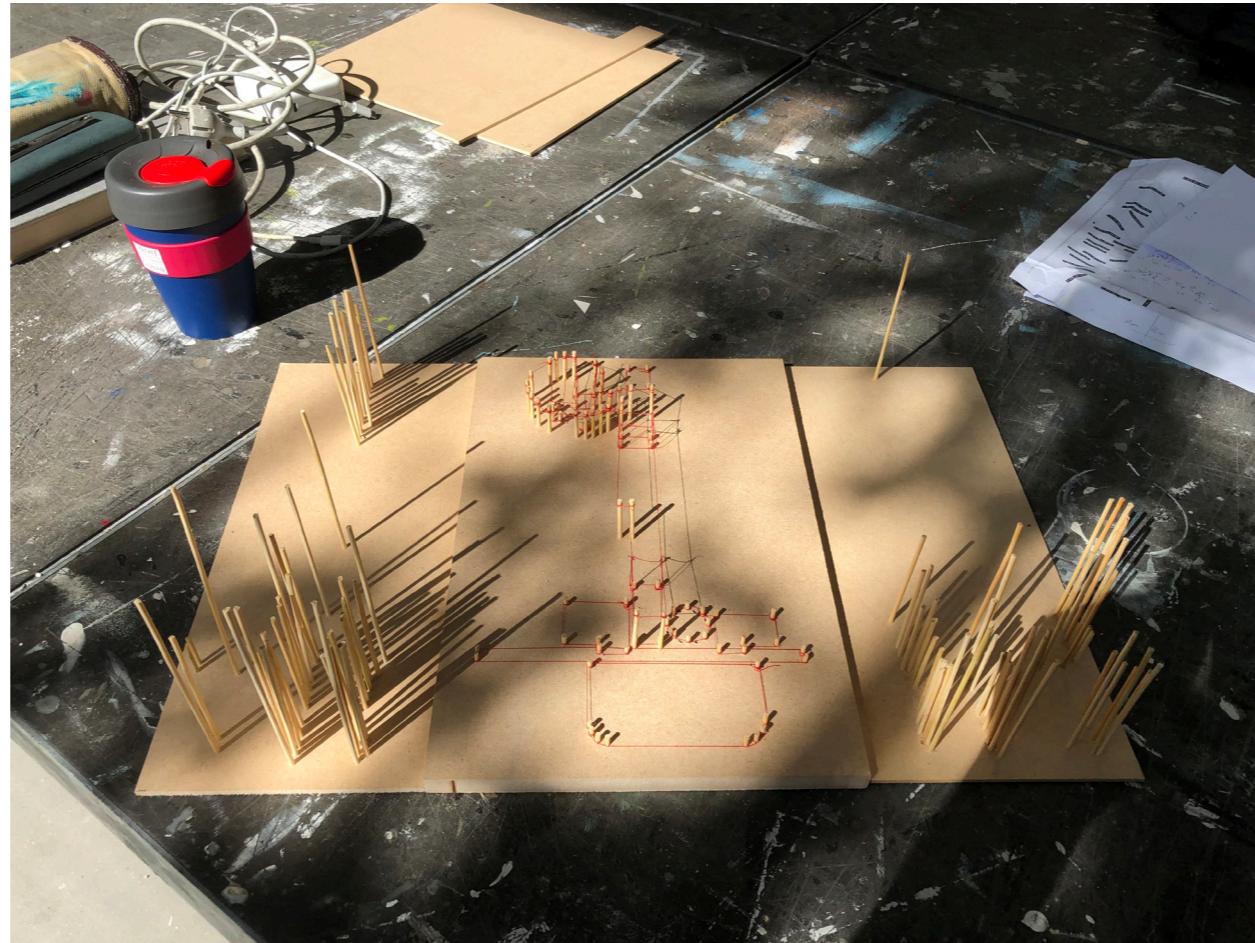
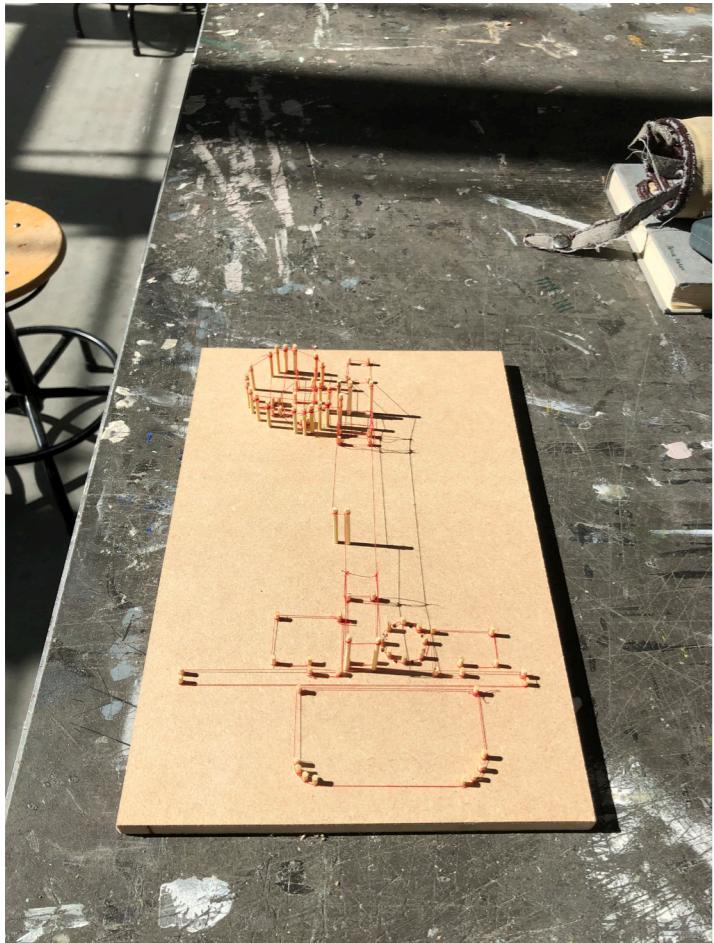
Vertex processing no longer takes place on a 2D plane, but rather inside the Model View. Ironically, to translate it into a physical representation, I had to create a virtual 3D model of it from which to take the required information to build a physical copy of it.

VERTEX PROCESSOR

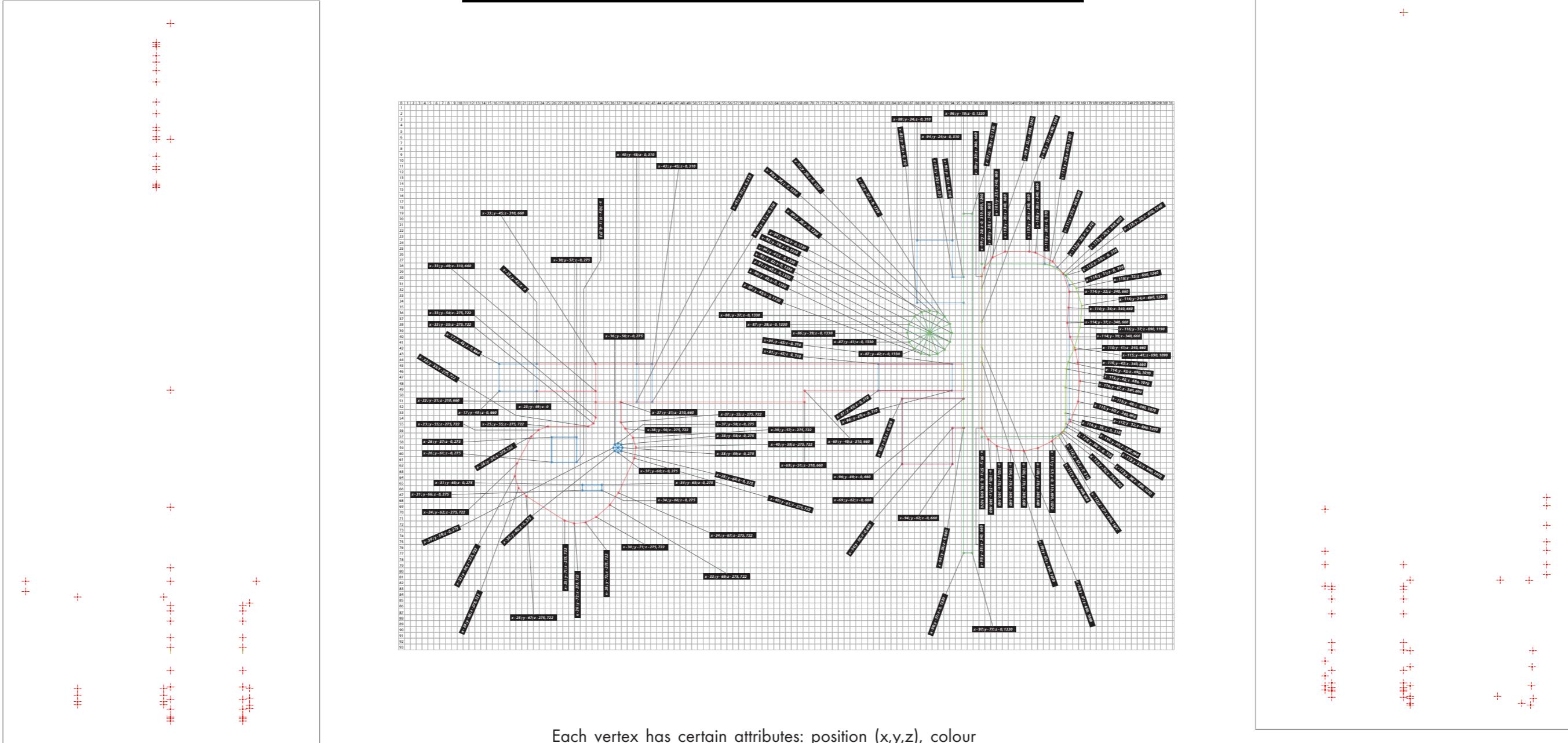


The raw vertices and primitives (consisting of one or more vertices) are transformed into fragments that can later be translated into a 2D pixel grid.

PROCESS PHOTOS



RAW VERTICES



Each vertex has certain attributes: position (x, y, z), colour (RGB or RGBA), vertex-noral (n_x, n_y, n_z), and texture. The information is then configured in the 3D model space ready to be assembled into fragments.

BLACK BOXES, PREDICTION METHODS