

ART 4753

IMAGE, VOLUME, LAYERS

ATLAS BOYD

ART 4753 SUMMER 2024

IMAGE, VOLUME, LAYERS

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TABLE OF CONTENTS

INTRODUCTION	PAGE 6
RESEARCH	PAGE 8
PROCESS & PRODUCTION	PAGE 26
OBSERVATIONS & OUTPUTS	PAGE 62
INDEX/BIBLIOGRAPHY	PAGE 72

INTRODUCTION

Digital Fabrication is the process of translating a design from the digital realm into fabricated material. However, this is not just a question of digital to material, but also of design and concept. This process involves intense research, experimentation, patience, care, and lots of trial and error.

PROJECT BRIEF:

Image, Volume, Layers is a decentralized project, in which the main object/design output is presented alongside content related to its conception, process of production, and intent.

Each project should utilize the combination of image, volume, layers in its design process, as well as conceptually - as we consider that language in relationship to histories.

RESEARCH

RESEARCH SUB-CONTENTS:

- IDENTIFICATION OF TOPIC/ISSUE
- INITIAL RESEARCH
- RESEARCH REFERENCES
- FOCUSED RESEARCH
(IMAGE, VOLUME, LAYERS)

RESEARCH TOPIC/ INITIAL RESEARCH

WHAT?

How do humans interact with and manipulate nature? How does nature interact with and change humans? What significance do manmade materials have? If humans/manmade materials and nature became one, what would happen?

This research explores the effects of humans on nature, specifically a human hand, along with the effects of nature of the human hand and man made materials.

WHY?

WHY?

I chose this research topic because I've always been interested in human interaction with nature. I was called a treehugger as a kid and read a lot of ZooBooks and animal encyclopedias.

HOW?

I plan to translate this by creating a 3D model of my hand in fusion. The human hand represents many things, but especially manipulation. Without brains, it is our strongest weapon. I will use a 3D printer to print out several versions of the hand as tests. I want to make it so I can either interact with nature using the hands, or even have nature interact with the hands. It will be an open palm, kind of a welcoming gesture towards nature and animals. I want one to be filled with dirt or some kind of earthy material. For another, I want it to use it as a bird feeder, so that nature can choose to interact with it willingly.

RESEARCH REFERENCE 1: GIUSEPPE PENONE

This artist has many artworks related to people, nature, time, and transformation

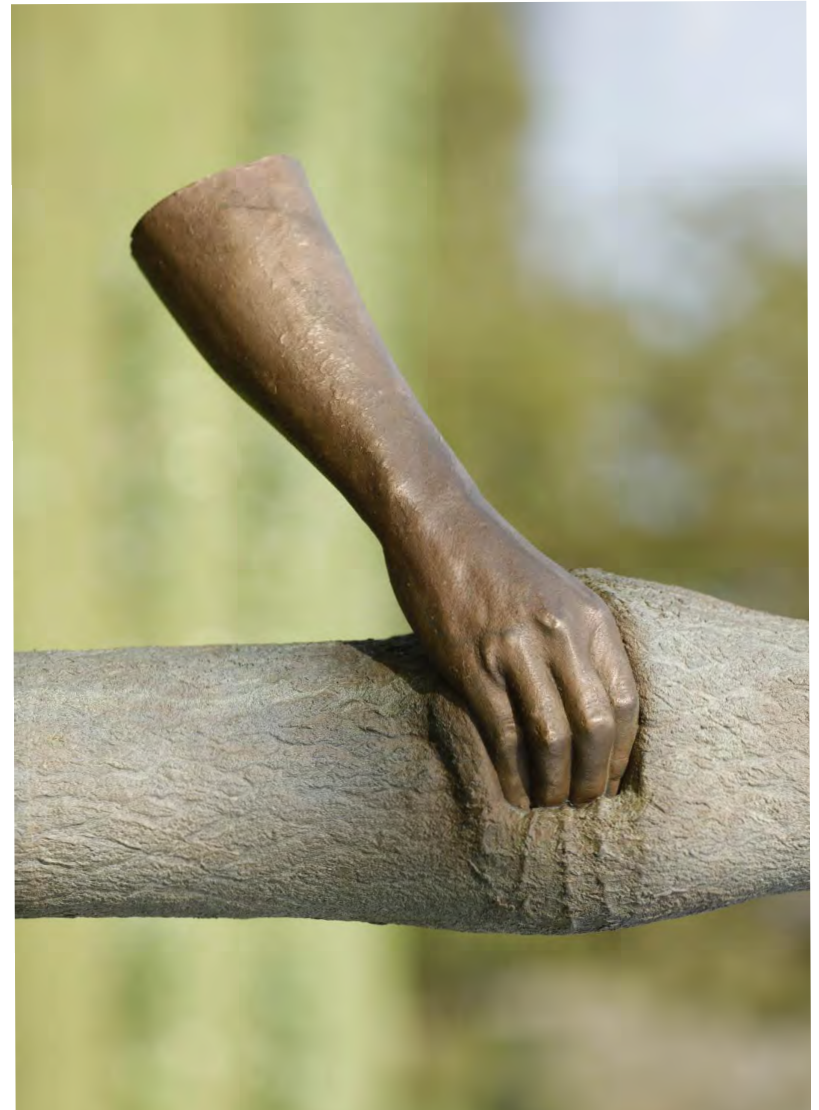
The artwork "Continuerà a Crescere Tranne Che in Quel Punto" explores humans' relationship with nature, specifically a tree. The bronze that represents his hand altered the growth of a tree.

Several other works related to human impact on natural bodies such as "Tre paesagg." This artwork explores how transformation the human body is effected by the trunk of a tree or nature.

“Tre paesagg.”



“Continuerà a Crescere Tranne
Che in Quel Punto”



RESEARCH REFERENCE 2: Thomas Hirschhorn

This artist creates artwork about ancient and contemporary human experiences. "The Chandelier with Hands" has elements of prehistoric art with modern material. It explores the physical and spiritual aspects of human existence along with the connections between human experiences.

This is the artwork that inspired me to do something with hands.



RESEARCH REFERENCE 3: Louise Bourgeois

This artist has artwork related to human empathy and cooperations
"The Welcoming Hands" explores emotional pain, vulnerability, and human relationships and invites viewers to emphasize.

I was going to lean into this one at first.



FOCUSED RESEARCH

IMAGE, VOLUME, LAYERS

My researched changed quite a bit over time. At first I was looking into something that had more to do with human empathy rather than nature, but I decided to mix those two together in some capacity.

IMAGE

I plan to create hands that represent human manipulation. Humans use their hands to control the world around them. One of the hands will have a metal plat attached to it that will act as a hanger for the bird feeder.

VOLUME

One of the hands is about the size of a child's hand. It could represent how a human manipulates their enviroment through curiosity and innocence.

LAYERS

Two of the hands have a voronoi pattern. This kind of looks like fungi. They are a bit thin, so the second voronoi hand has a solid hand on tbe inside of it. The smaller child's hand is fully solid.

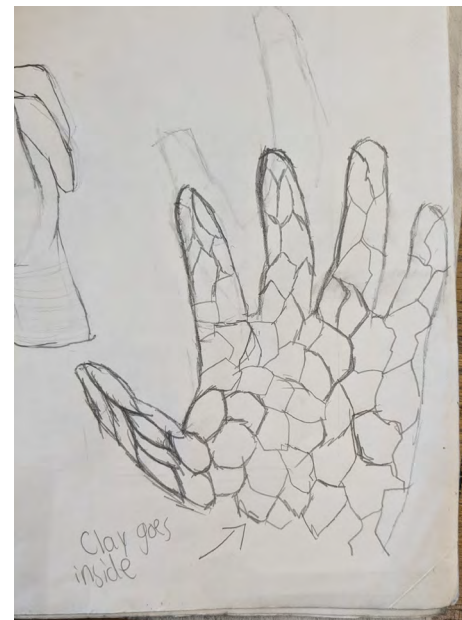
PROCESS & PRODUCTION



This is a sketch for human empathy and cooperation



This is a sketch of my first idea for humanity's relationship with nature



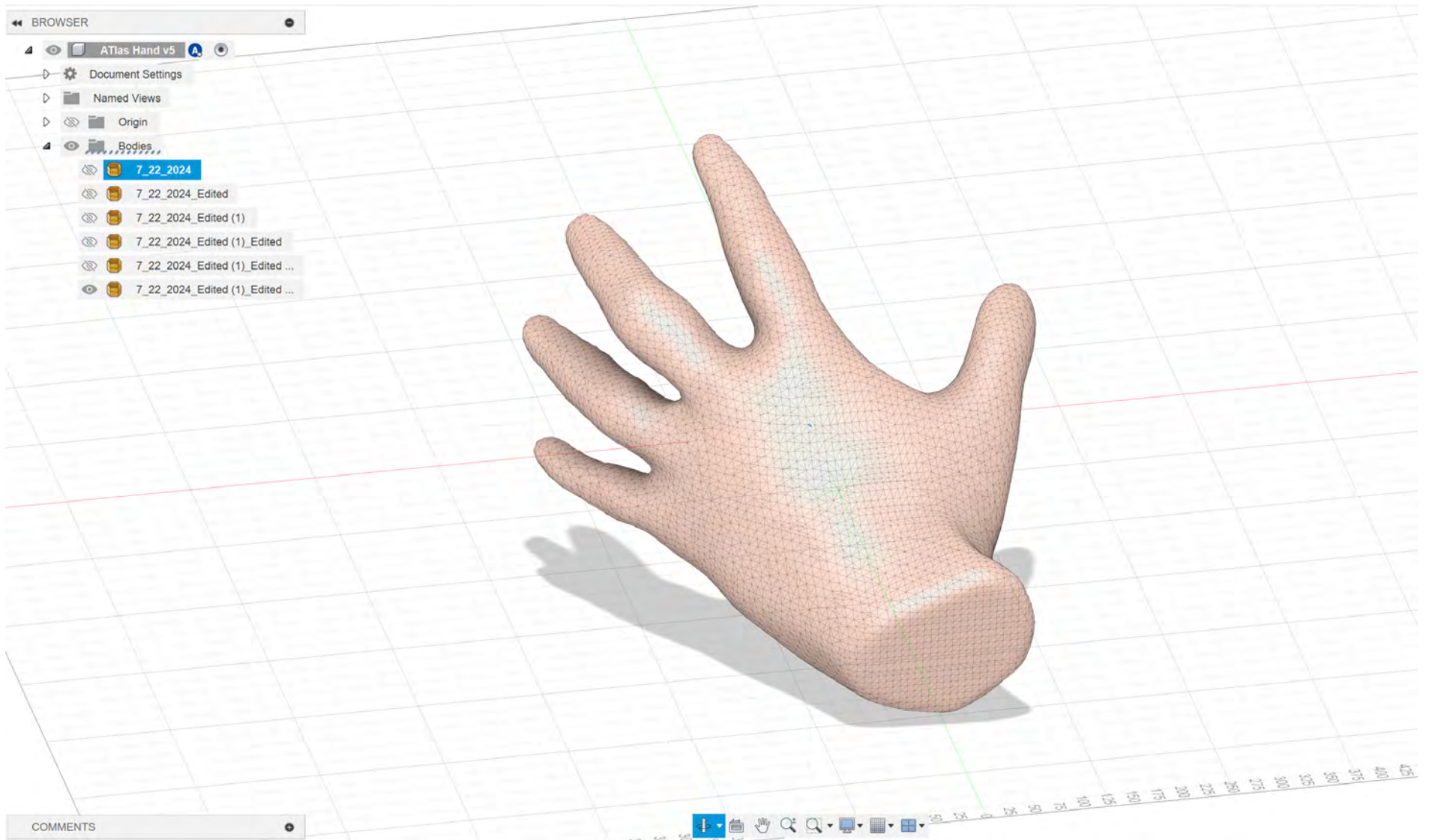
This is another sketch for humanity's relationship with nature. This is the design I went with.

The next step of my process what printed out a test hand using the 3D printer. This hand was fully solid.

I created the model Fusion 360

I then retrieved the hand and decided to create several photos of it interacting with nature.

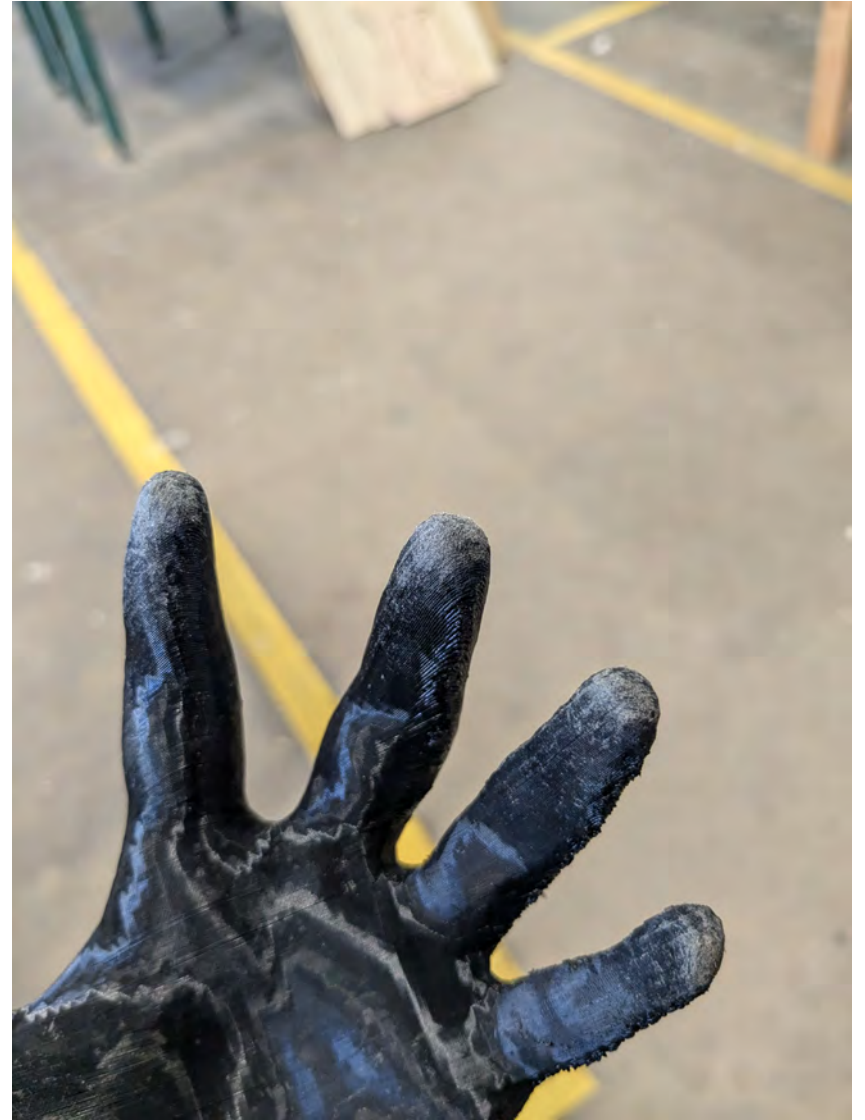




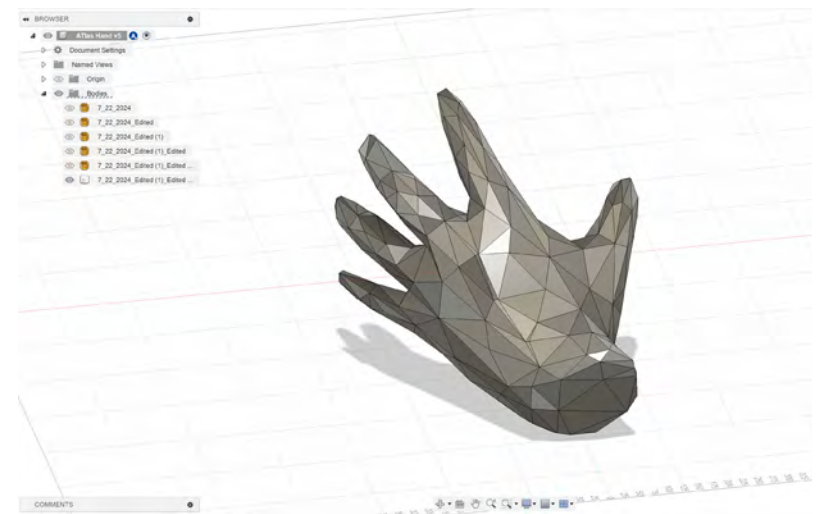
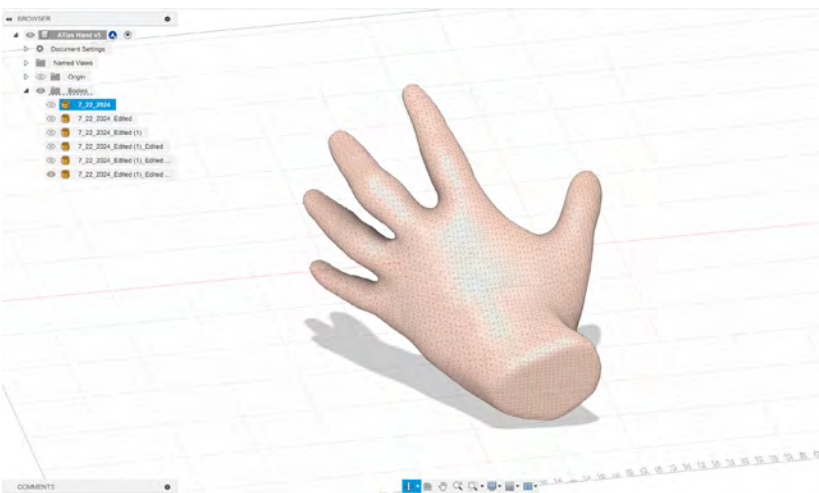
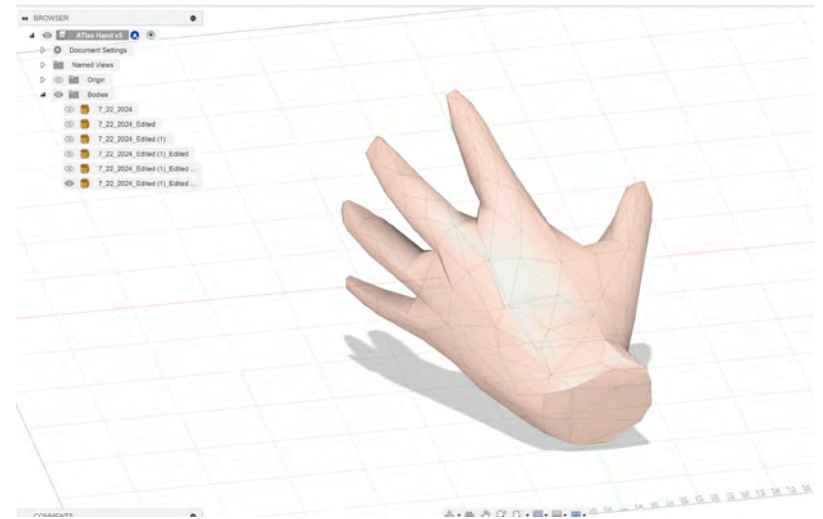


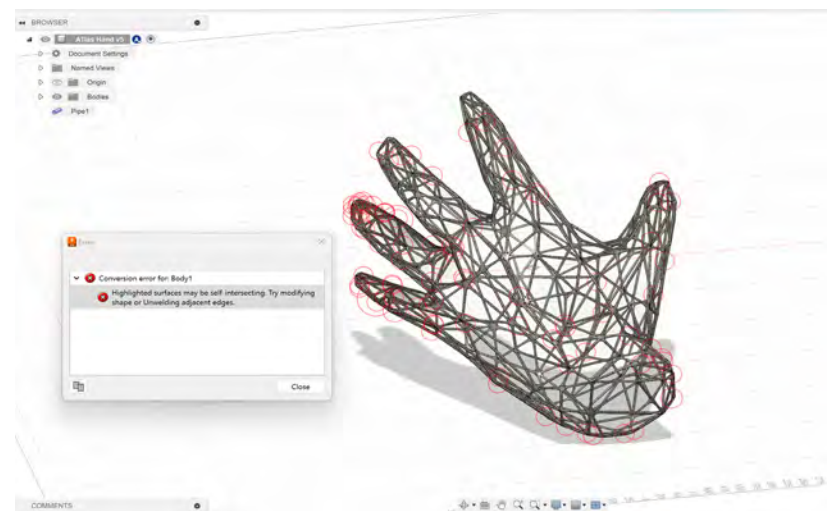
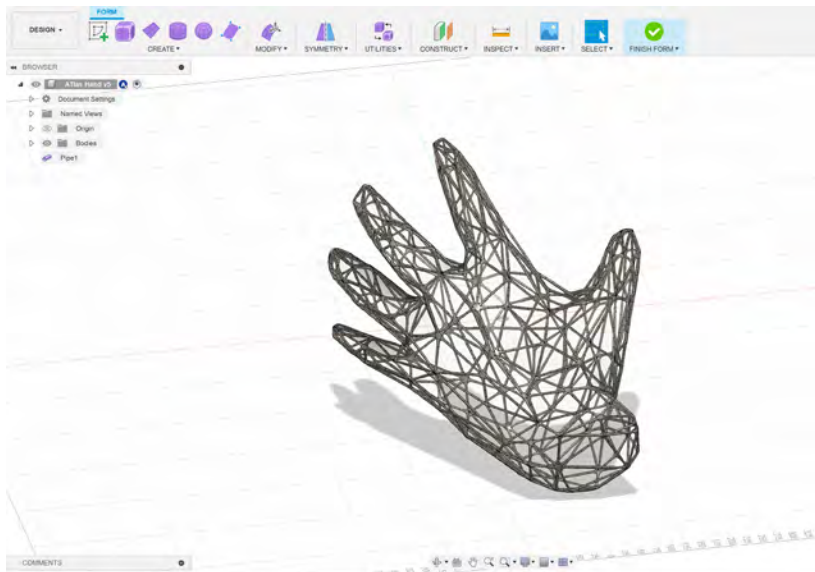
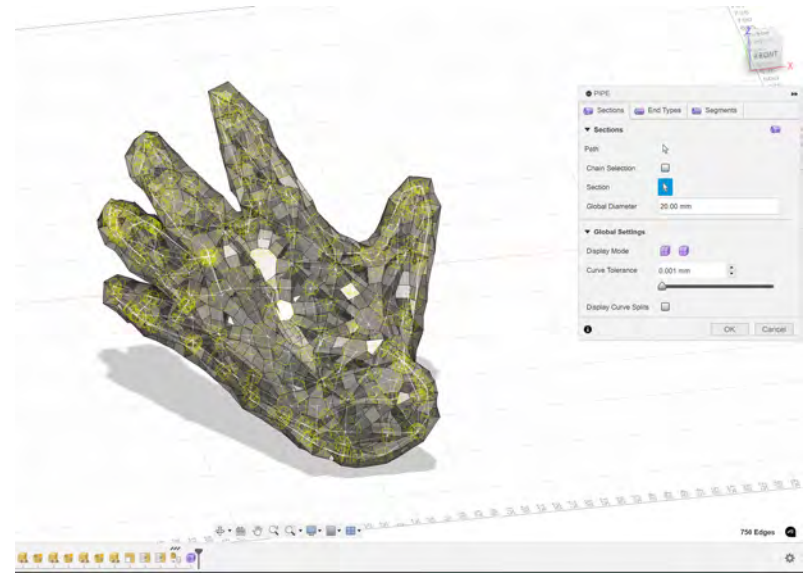
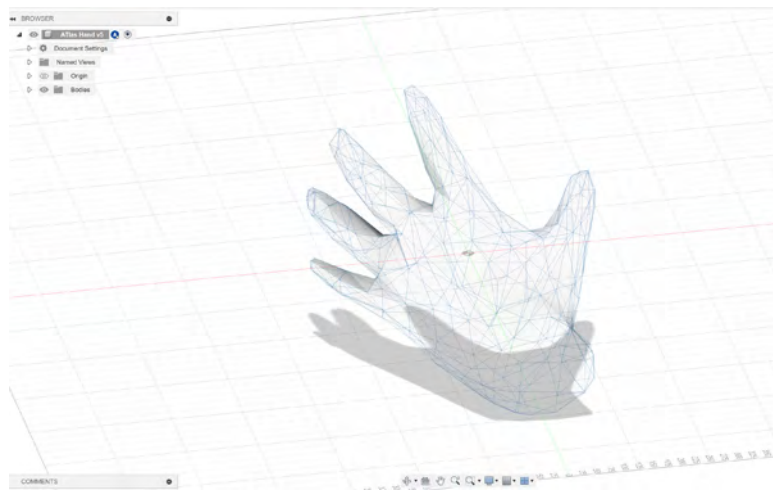




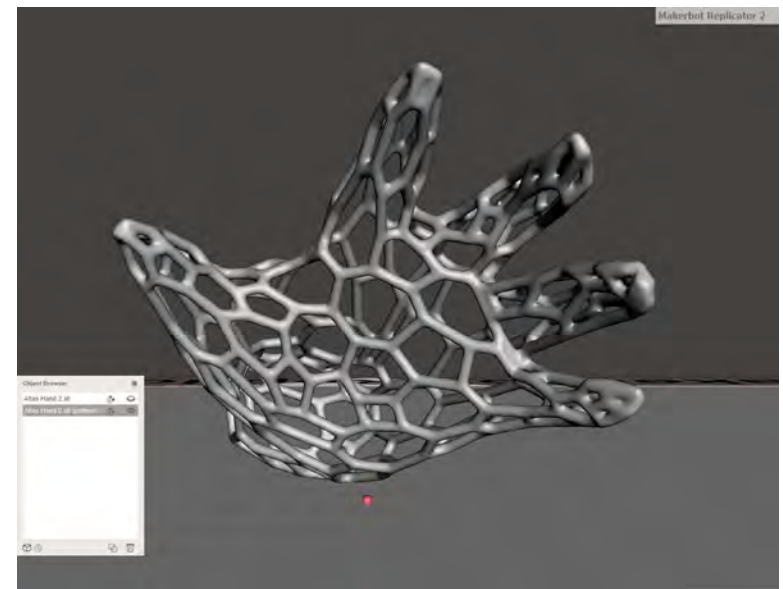
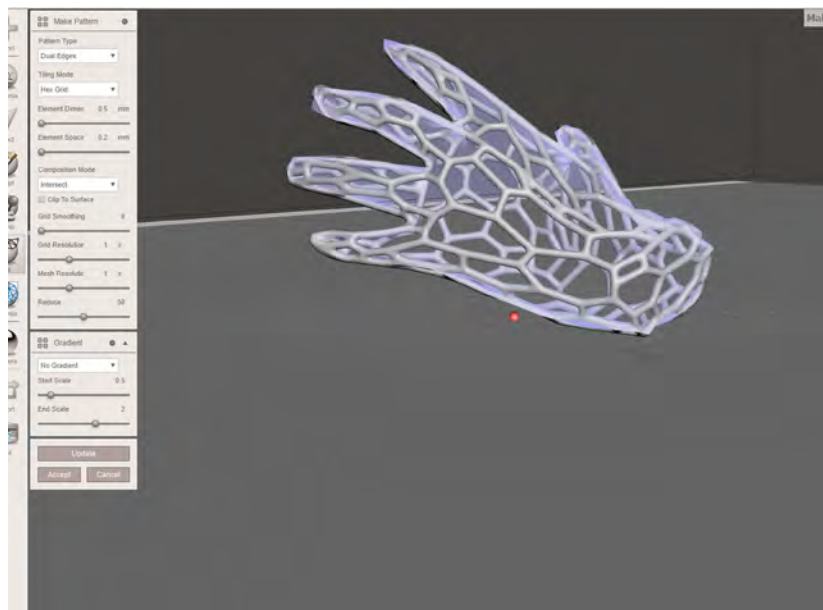
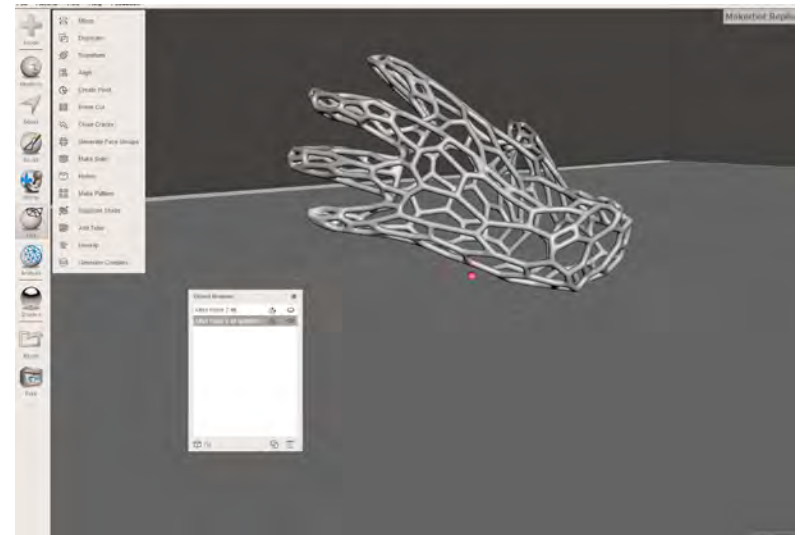


These pages follow the process of me trying to create a voronoi texture for the 3D model of my hand using Fusion 360. I did this while waiting for the test print to finish.





The print from th test model broke easily, and the was difficult to take the supports out, so I decided to make a version with thicker tubes and bigger holes.



This is how the final voronoi print looks

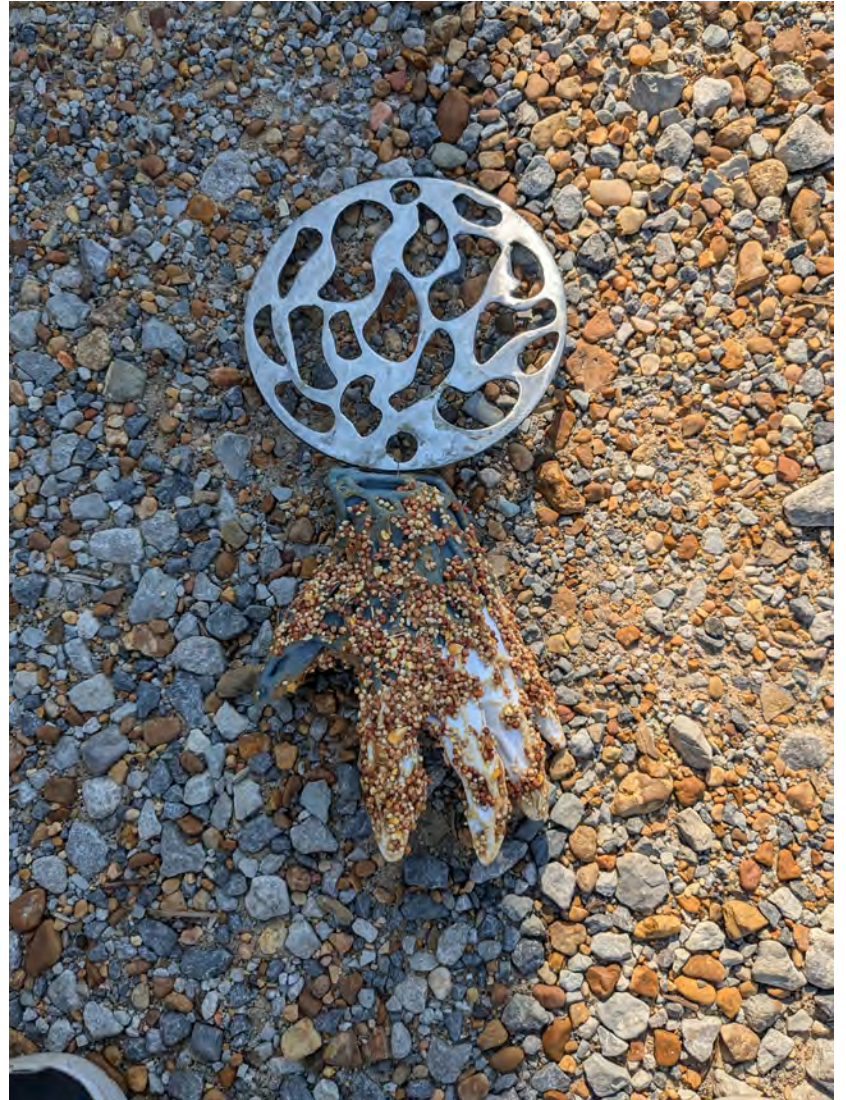


In the case of the voronoi breaking again, I had decided to also make another version with a solid hand on the inside of the voronoi texture.

This is the one that I decided to turn into a bird feeder using the metal laser cut.



I coated the bird feeder in peanut butter and bird seed then tried out several areas to attract birds to it.



While I waited for the birds to interact with the burd feeder, I decided to do some documentaion of the voronoi hand in nature.



I filled it up with dirt and tried to replicate what would happen if a natural water source interacted with it



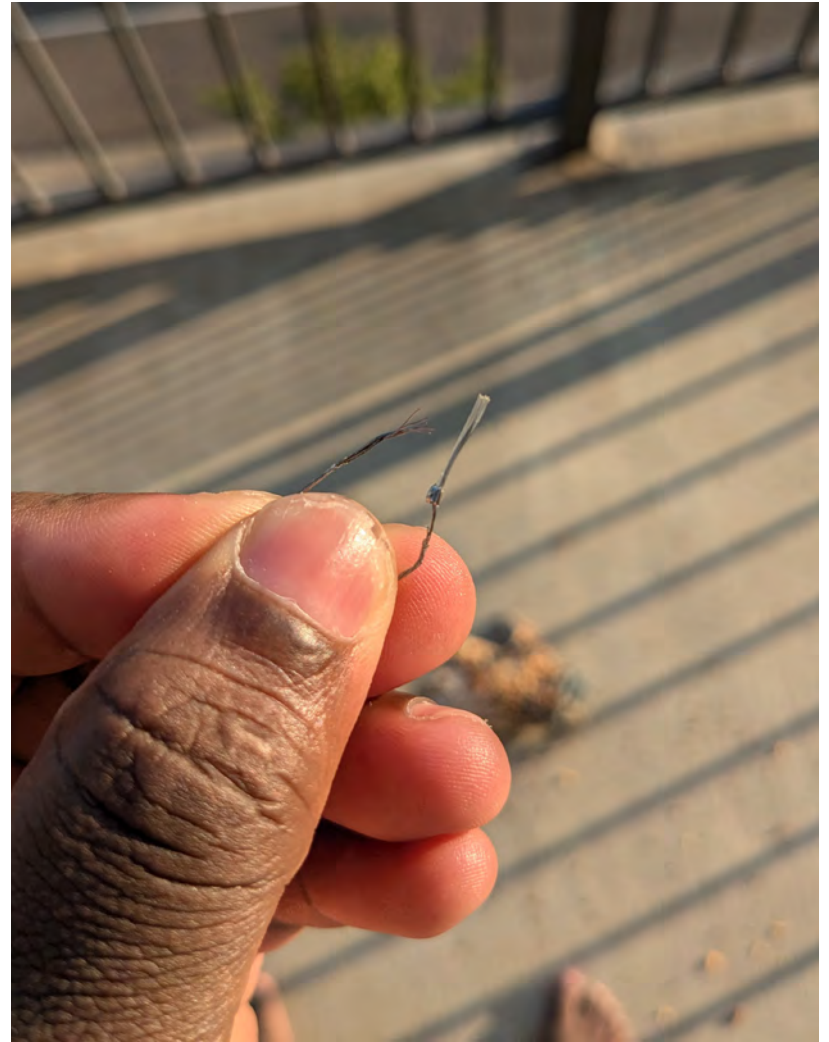


Meanwhile, the bird feeder was not being interacted with.

In the end, I hung it on the balcony door of my apartment. I left it there to get in the shower and came back to this:



That is definitely a success.





The first test print was a solid hand that I did not print on using at first due to it just being a test print and ending up smaller than I had hoped. But it worked out as a child's hand playing in the dirt.

I had to stick a metal pipe through it to keep my actual hand out of the frame.

.I discovered that it is sometimes good to use multiple programs in order to get the job done.

Meshmix is a much simpler program that allows for easier mesh editing. That is how I was finally able to create the voronoi pattern.

Now, when I finally printed the first test print of the voronoi hand, it was small and fragile. It kept breaking when I tried to take the supports out.

OBSERVATIONS & OUTPUTS

This project took a lot of trial and error, but it was fun in the end. I learned that I had to switch programs every now and then in order to get things done. The trial and error forced me to further learn Fusion 360, so that is also a plus.

I had planned on just using a single voronoi hand, but I ended up having three different parts to the same project. This added more depth that I was not planning on in the beginning. I definitely wasn't planning on making a bird feeder at the beginning of the project, so that was an unexpected bonus.

The hands fitted oddly well in the environments I put them in. I am wondering if it had to do with the natural look of the voronoi.

The solid black hand being smaller was a nice touch for the overall project due to it contrasting with the adult sized hands. It also interacted with nature differently compared to the bigger voronoi hands. It was more playful, in a way.

This project showed that even human hands that cannot move or do much on their own have an impact of the natural world, along with how the natural world impacts them.







THANK YOU - AB

INDEX

GIUSEPPE PENONE / Tres paesaggi /
1986 / <https://giuseppepenone.com/en/works/0394-tre-paesaggi>

GIUSEPPE PENONE / Continuerà a
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Thomas Hirschhorn / The Chandelier
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Louise Bourgeois / The Welcoming Hands
/ 1996 / <https://www.artbasel.com/catalog/artwork/74410/Louise-Bourgeois-The-Welcoming-Hands>