

# f u r t h e r m o r e

A Study by Namrata Iyer | ISDI | Batch of 2021



# FURTHERMORE

A thesis submitted in a partial fulfillment of the requirements for the completion of the course in Fashion Design, ISDI - School of Design and Innovation.

To the Department of Fashion Design, April, 2021.

It is certified that the work contained in the thesis titled

FURTHERMORE

by Namrata Iyer

has been carried out under our supervision and that this work has not been submitted elsewhere for or as a thesis project.

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# c r e d i t s

My family; for being fascinated by my ideas, celebrating my wins and reassuring me on doing what I believe in - even when it doesn't make sense to the world.

Nandini, Jinam & Sneha; for matching my wavelength of doing meaningful work in society. It's comforting and hopeful to be understood and how.

Ihjaz; you've listened to me in better and worse. An understated act, but so valuable.

My thesis mentors and faculties; Mr. Akash, for pushing me to imagine the unimaginable. Who knew my mind could reach these limits? Mrs. Solange, for believing in my ideas. Expanding thinking in all aspects and giving me direction just with the eloquence of your words. Mr. Anwar for exploring handworked techniques and helping me pop one leg out of the box. Mrs. Divya, for being so patient, throughout, and telling me I'll be able to pull it off, when I didn't believe it.

Finally, myself. For being stubborn on the change I want to see. And making it happen.



f u r t h e r m o r e

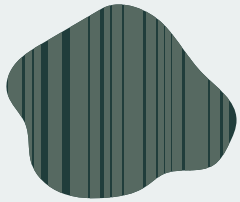
*a remake.*



“We’re so concerned that our small actions  
won’t be enough, that instead, we do nothing.”

*Terra Heilman, TEDxMtHoodSalon*

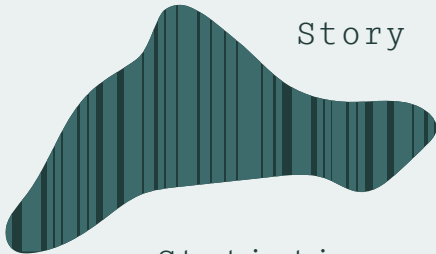
# c o n t e n t s



Abstract

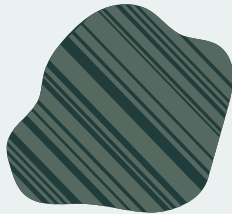


Introduction

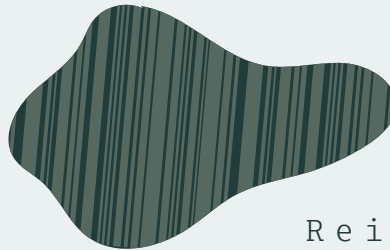


Story

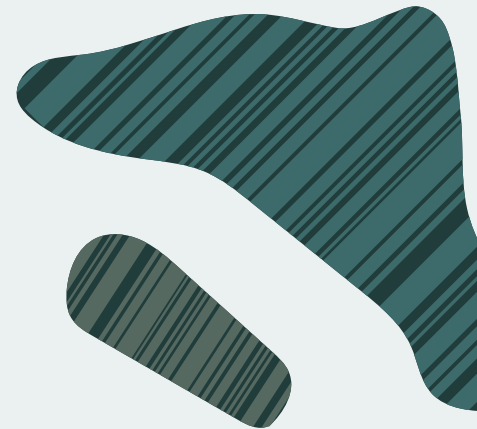
Statistics



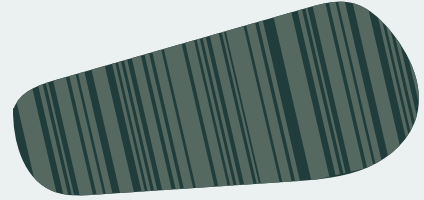
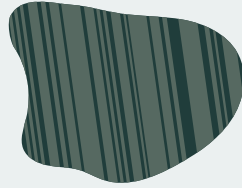
Material  
Hunt



Reinterpreting  
Textile Waste



Bibliography



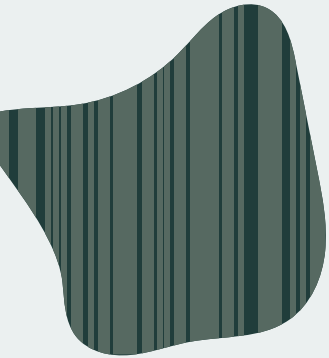
Conclusion



Consumer Study



Process

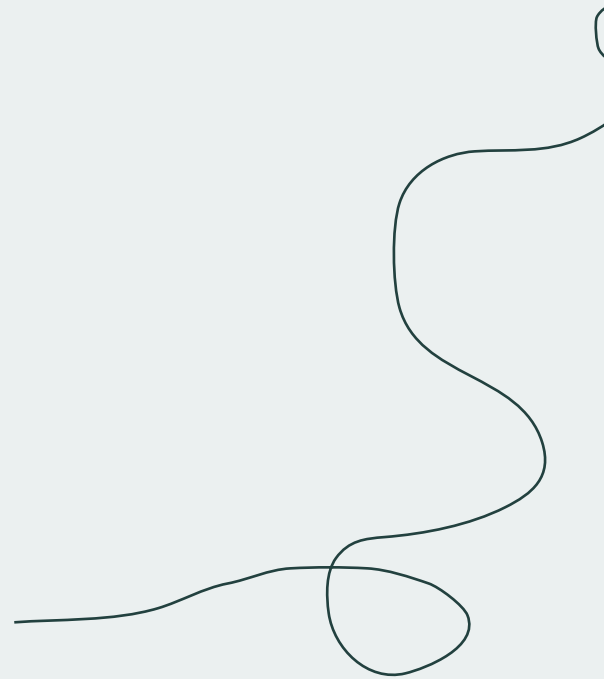


The Raw Materials





# a b s t r a c t



In spite of being the Textile Recycling Capital of the world, India recycles only 10% of the waste it receives and creates. While this statistic includes pre-consumer waste, it puts us at an even lower position for post consumer waste - which does not have an outlet in most cases - 57% waste that enters the landfill. My objective with this thesis was to explore the possibility of post consumer textile waste and study how I could use that as a raw material in making long-lasting lifestyle products like paper and pottery. I used the technique of shredding for converting the textile waste into fibre which I then used it as an additive in the process of making paper and paper mache. The results have been a vast understanding of the use of shredded textiles, physical compositional studies and a line of handmade papers and paper mache tableware - using textile as an additive for strength and durability.

# i n t r o d u c t i o n

The facts regarding post-consumer textile waste in India remain, that it is too expensive to recycle. Most of the post consumer recycling is converted into blankets, and fabrics of the household by smaller enterprises with less options in design, colour and style. The blankets are kept for use during relief camps during natural calamities and the fabrics are used by households for domestic purposes. The elephant in the room remains that there is lack of information, resources and data on this sector.

Industrially, post consumer recycling is an expensive process. Garments would have to be sorted according to colour, & material, and existence of fabric blends makes it a lot harder for the sorting to process. Fabric contamination must be considered too. Owing to all these factors, post consumer textile recycling can prove to be an expensive process, which cannot be kickstarted without a hefty investment.

That's where my thesis comes into play. I want to let individual consumers experience recycling of their own garments by creating that system. I've taken mixed textile waste and attempted to create a new compositional material - combing it in the process of making paper and paper mache products.

The waste is mixed - so as to allow for unique products with a similar formula of creation. This defeats the problem of sorting and contamination - I've used the challenge as an advantage. The explorations within paper and paper mache have been fairly successful, and also carry potential to be worked on a lot further. It's important study in the fashion industry to clean up the waste we create. It's further important since consumers don't have an opportunity in responsible disposal.





“The most sustainable way is to not make things.  
The second most sustainable way is to make  
something very useful, to solve a problem that  
hasn’t been solved.”

*Thomas Sigsgaard*



# s t o r y


we have enough, we don't need more things.

everything we need lies in garbage bins, warehouses and houses of those who don't want them.

then why exactly are we still producing using virgin materials?

I entered Design School with 3 tiffins full of knowledge on the climate and possibly another tiffin full of ideas on what I can do to slow down our planet from burning. Over the years, the environment has posed itself to me in multiple forms - environmental (of course), political, social, beaureaucratical and capitalist, industrial and finally, personal.





One of my greatest realisations sit on the fact that today, in 2020, we don't need more things. We have enough. They're only misplaced - in places called garbage cans, landfills and warehouses. Then why are we still producing? Why are we still using virgin materials, if there are existing materials that just need to be reused?

I'd like to focus on such battling questions with my thesis and prove a point by realising upon a solution. I work with waste as a starting point - and build a system & a new product out of it, which will hopefully let us close the loop - and with ease perhaps? The goal was to target the waste management system in India. Find out where the problem areas are, what's going wrong and where and start ideating on how it can be fixed. Alongside this, I aimed to work with the existing waste, and churn out a plausible long term solution on how it can be used as a starting point for a certain useful materiality or a product, all of this to a level that can be pitched and actualised. To reimagining waste, to making it look cool.



## What Factors my Identity

- less production
- not using unnecessary resources
- functional design : useful & meaningful
- socially & ethically relevant
- ground level solutions
- systemic employment generation in sustainability
- homegrown methods, less footprint, waste reduction & responsible disposal

# s t a t i s t i c s

**37.7 CRORE** Urban Indians live in towns and cities, generating **6.2 CRORE TONNES** of annual Municipal Solid Waste.

---






4.3 crores collected

1.19 crores treated

3.1 crores dumped

- 
- disease breeding ground
  - releases CH<sub>4</sub>
  - casues flooding
  - damages infrastructure
  - displaces communities



curious  
case of  
textiles

# m a t e r i a l h u n t

I wanted to find a raw material. I had an abundance of waste streams to choose from, but somehow I was drawn to textiles.

Four years in fashion had brought me closer to textile fibre than ever before. While some of my personal quests included wearing second hand and upcycling old garments remained widely done even in the industry; there was a huge question mark that stood besides textiles like rags, intimates or items of personal use - like torn socks perhaps.

This curiosity led me to finalise on post consumer textile waste. While several brands in India recycle pre-consumer textile waste; very few touch upon the ones that have already been used. And necessity led to me probing into this topic.

I was curious to understand, *why* post consumer textile waste was not recycled - and *how* I could explore that through my thesis.



after spending almost 2 months incessantly calling fabric manufacturers, recyclers and brands, I came to the following conclusions:

no manufacturers are ready to address this topic; unless you have an Amazon level investment.

you want to trash your diwali cleanout but also be responsible with disposal.

fabric composition differs & garments may be contaminated.

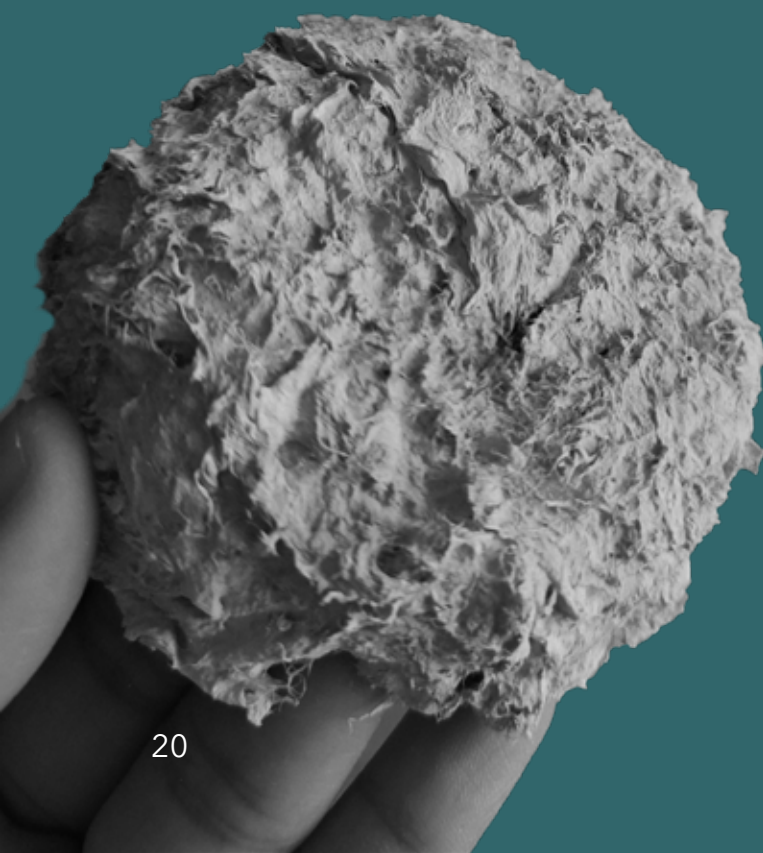
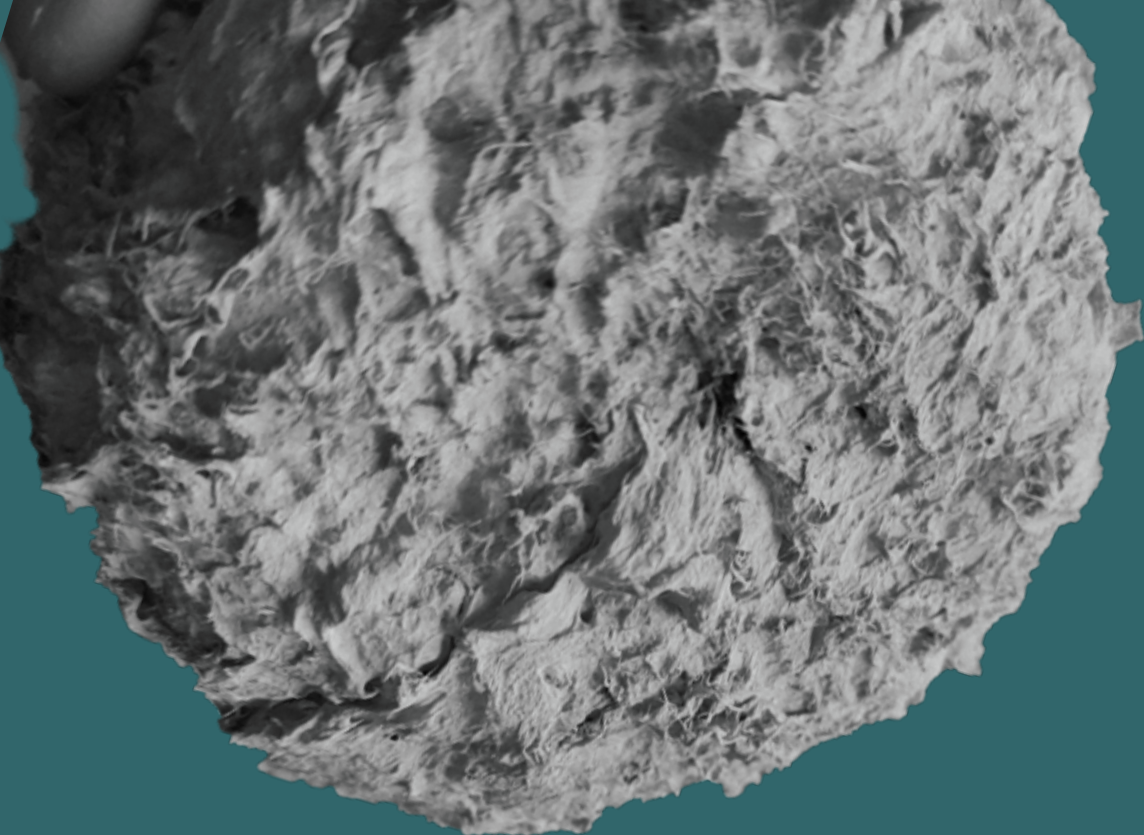
post consumer waste recycling is long + expensive.

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\*conversations held with several manufacturers and pre-consumer textile waste manufacturers from the country. a fruitful conversation I had was with Abhishek, Head of Design at Spykar - who gave me an industrial insight on why recycling is hard.

We further spoke about how denim recycling happens conveniently since the material, cotton, is constant throughout. That consistency in material leads to easy industrial recycling.







glue & gelatin

oil

distillery

cement

sugar

dyes

fertilisers

pulp &  
paper

pharmaceuticals





# THE STINKIES

industries that are classified  
to be the most polluting

# OUR MONEY

industries that are classified  
to bring us increased GDP

iron & steel

cotton clothing

pharmaceuticals

construction

organic  
chemicals

petroleum

pearls & stones

vehicles

precious  
metals

plastics





57 food & green

8 plastic

4 glass

2 rubber & leather

3 metal

26

# WASTE CHART

*classification of waste in  
south asian landfills % wise*

10  
paper &  
cardboard

1  
wood

15  
other

pulp &  
paper

## MY PLAYING FIELD

*These are the repeating industries that find in at least 2 of the afore charts. Taking that as my validating factors, I went ahead with the same.*

*a combination of economics,  
interest and my preferred market*

pottery



## But Does Recycling Work?

recycling paper saves upto 60% energy

reduces deforestation

reduces litter - which in a landfill can be infectious and also release gases contributing to global warming.

paper & plastic once recycled a few times can be used for lower grade uses

Helps generate employment for waste pickers and workers  
- potentially upto 500,000 jobs in India.





# REINTERPRETING

TEXTILE WASTE

## CORE IDEA

reimagining textile waste /

## PATHWAY

materiality /

## DESIGN PILLAR

foresight design /

## VISION

To reimagine waste, use it as a raw material that displaces it from a landfill, by making it a part of lifestyle product cycles.

thesis statement



## VALUE PROPOSITION

to redirect post consumer textiles into making meaningful recycled products.

solves problem of excess and little

smaller carbon footprint

addresses consumers who want to give away clothes

addresses consumers who want to buy better

let's understand  
FORESIGHT DESIGN  
wait what's that?

## Okay, let's assess future's design first

future's design can be divided into **speculative**, **foresight** & **holistic** design

"design can allow an individual to open windows on the future in order to better understand the present".

---

Elaborating on the concept of wicked problems

Assessing the role of design as an integrative field which provides methods for problem definition and problem solution

A deep understanding of context through ethnographic methods, with the solutions-oriented bias of a design process.

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it builds on our innate human capability of:

- (a) anticipating the future and
- (b) shaping our environment to respond to perceived threats and opportunities.



These methods do not and should not offer definitive answers as to how the future will look – instead, they are useful devices in enabling people to better understand the challenges we are faced with and spark reflection about implications at a personal, collective and societal levels.

now,

## FORESIGHT DESIGN

simply put, foresight design works towards the near future;with a stronger hold in reality.

strategic design | design for readiness | disruptive | cultivating futures





it's no big news that we create  
is more than the waste we clean up.

disposal is commonly not handled by  
manufacturers and designers. so really,  
nobody knows what to do with old  
suitcases and torn underwear.







r a w

MATERIAL STUDY





# the raw materials

- a. Textile Fibres
  - b. Paper
  - c. Clay
- 

## Textile Fibres : : Mixed Shredded Fabrics

I realised the main problem lay in mixed bags of fabrics. I turned it around and took it as a challenge. Instead of viewing heterogeneity as a drawback, I treated it as a positive. In a nutshell, I chose to work with a mixed bag of heterogeneous fabrics - this is bound to give me slightly different results everytime, but there's a beauty in that - with a class of consumers looking for unique products that are different from one another.

**To begin with, I understood the basics of what fabrics and fibres are:**

"A material composed of synthetic or natural fibres - spread into a wide range like wools, silks, hemp, polyester, rayon, etc."



Fabrics are made by spinning fibres - plant or animal - into long strands called yarn, which are further woven, knitted, crocheted or twisted into lengths of fabric. by Spinning Raw Fibres to produce long strands called The yarns that run through the length of the fabric are called warp, and the ones that run horizontally are called the weft. A good ratio or balance between the warp and the weft, is what produces a high quality fabric.

**However, we aren't concerned with the quality of our fibres as much as we are with the kind, and other physical properties.**

## TYPES OF FIBRES

### NATURAL



silk  
cashmere  
alpaca  
mohair  
lhama  
wool  
rabbit's hair  
horse's hair  
yak's hair



flax  
hemp  
jute  
banana  
ramie  
kenaf  
manila  
sisal  
pina  
cotton  
coir



## Manmade Fibres



viscose  
rayon  
acetate  
cupro  
lyocell  
modal  
polynosic



polyester  
nylon  
polyetherane  
cleflin  
acrylic

## General properties of textile fibres

---



67 - 950 gsm



232 C



low - high



yarn dependent

---

### Pros

- The short - long fibres can act as joining fibres to provide more strength
- The fibres are lightweight - thus they can provide volume, but won't make the product heavy.
- Preferable additive. Properties of paper and fibre align to many degrees.

### Cons

- Low burning point
- Can decrease plasticity while modelling paper mache.





The Indian recycling industry needs nearly 14 million tonnes of waste paper to meet current demands.

# the raw materials

## Paper

I've explained the reason behind why I chose paper. It's mass produced, high in demand and export value. It can also be used for a varied set of uses from kraft paper to paper mache. Finally, textile fibre can be a great additive to add structure and strength to paper products.

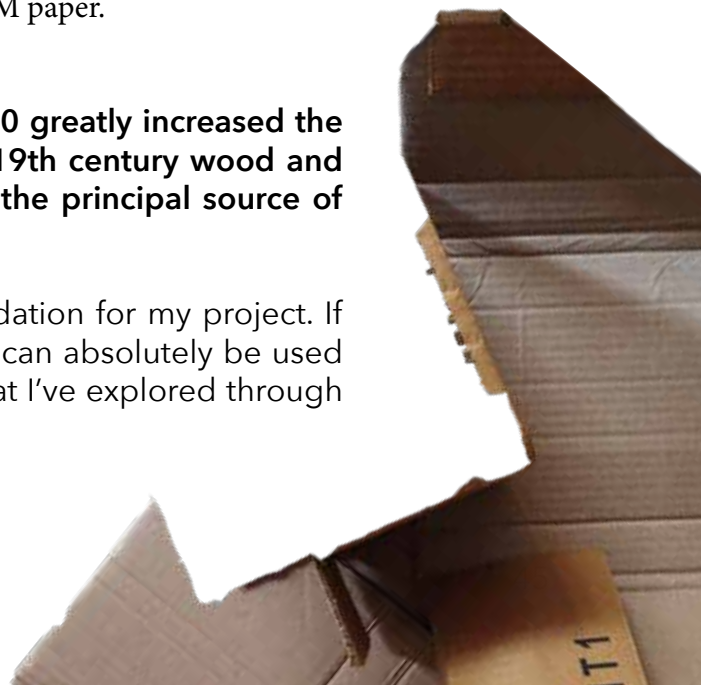
### **To begin with, I understood the basics of what paper is:**

Paper is a material generally used for printing and/or packaging. It's matted or felted sheets of cellulose fibres.

Most of the paper made in India is used to make mostly newsprint with sales of 6.3 Crores, further expanding into books, school books, cardboard boxes and other types of packaging for the expanding manufacturing sector. India has emerged as the fastest growing market when it comes to consumption, posting 10.6% growth in per capita consumption of paper in 2017-18, reveals the ASSOCHAM paper.

**"The invention of the printing press in about 1450 greatly increased the demand for paper, and at the beginning of the 19th century wood and other vegetable pulps began to replace rags as the principal source of fibre for papermaking."**

The above statement deems as an important validation for my project. If rags were used in the past for papermaking, they can absolutely be used again and in different versions. The results are what I've explored through the course of my thesis.





## TYPES OF PAPER

### *I have used*

Corrugated : Double Walled  
2 sheets of 'fluted' paper glued between 4 linings of paper.  
Impact resistant. Sturdy, durable.



100 - 180 gsm



248 C



high



tears, folds only  
but with force



### Newspaper

Commonly known as newsprint, this kind of paper is extremely thin, and is made for quick uses, is also disposable in nature.



40 - 65 gsm



233 C



high



tears, folds easily,  
not durable





### Egg Carton Paper

Made of paper pulp, these boxes are shaped to protect eggs from damage.



100 - 180 gsm



230 C



high



tears, folds  
easily





## Kraft Paper

Commonly used inside packaging boxes for impact resistance.



120 gsm



233 C



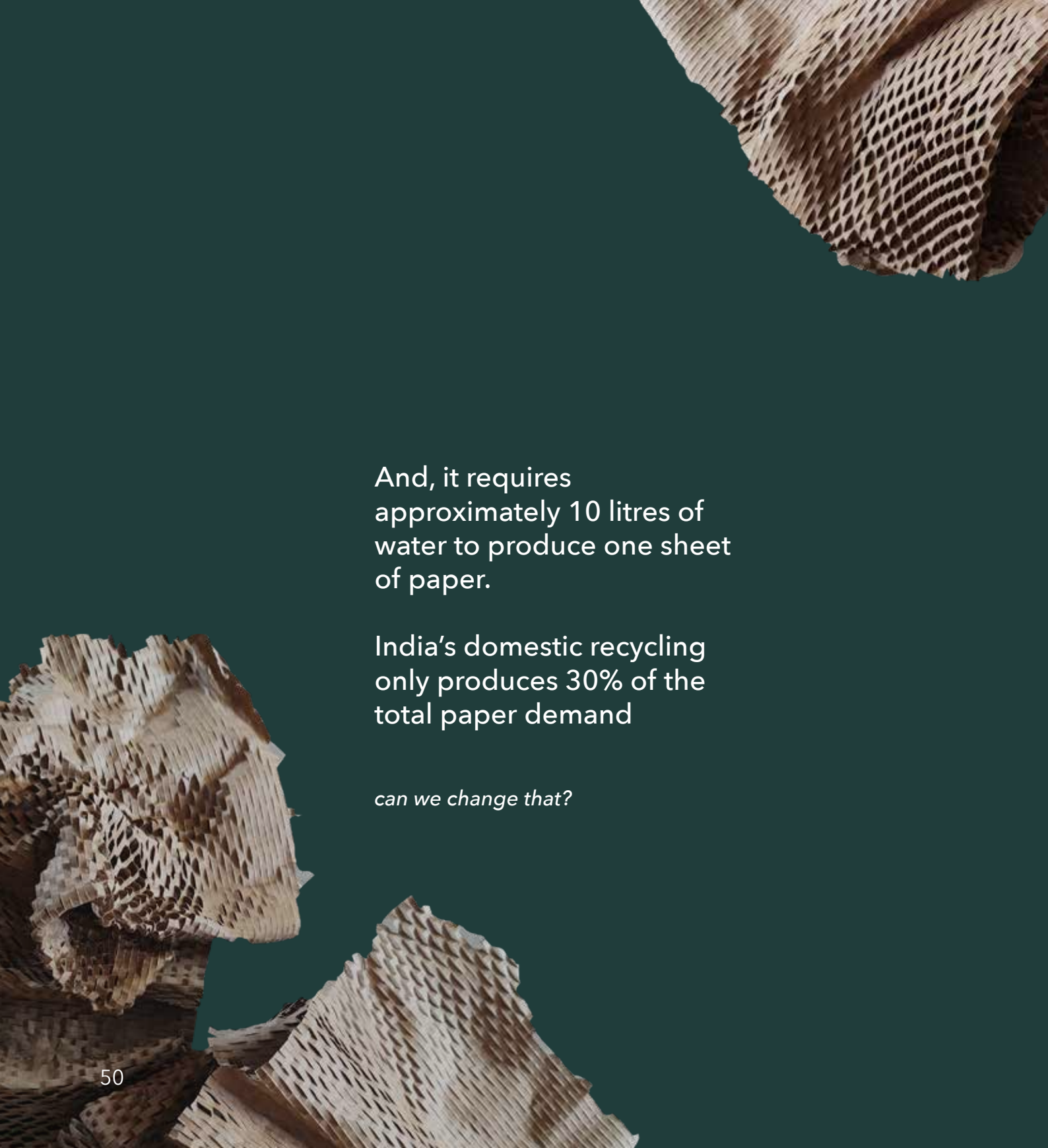
high



tears, folds easily,  
not durable

\*the differences of using each kind of paper will be highlighted in the process of each product.





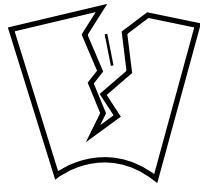
And, it requires  
approximately 10 litres of  
water to produce one sheet  
of paper.

India's domestic recycling  
only produces 30% of the  
total paper demand

*can we change that?*



## Paper Making - Small & Large Scale



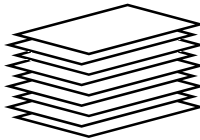
tear



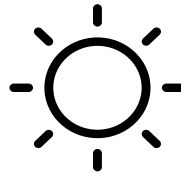
soak



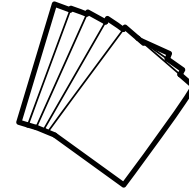
mould and deckle



pressed, dried



hung



final product

this is the same process I followed to make my craft paper

the same process is repeated industrially, but with machines for each step



- 1 An attempt to achieve common handmade paper by adding a new element.
- 2 Potential to make everyday products & compound emotional value through reuse.
- 3 Statement yet minimal aesthetics.
- 4 Increase the lifespan of the paper with longlasting fibre?
- 5 Potentially add strength.







Earthenware




Stoneware



Kaolin



Polymer Clay

A white ceramic vase with a flared rim, set against a dark, textured background. The vase is the central focus, with its smooth surface contrasting with the rough, woven texture of the background. The lighting is soft, highlighting the contours of the vase.

The clay that we see & use, has a primary mineral: kaolinite, which is 40% aluminium oxide, 46% silicon oxide and 14% water. Primary clay, often dense, heavy, yet pure, is found in the same place as the rock its been derived from. It hasn't been transported by water or a glacier - thus not mixed with any sediments.

Secondary clay on the other hand is transported by the above transporters and tends to be mixed with sediment. It's finer and lighter than primary clay and the carrying additives give it characteristics.

Clay generally comes to us in 2 forms - powdered or with pre-added water. It can be used at any point of time - no expiration dates as such.



## Stoneware



Plasticity  
higher the better



Baking Temperature  
1100 - 1300 C



Durability  
if baked well, forever



Moisture  
important before baking



Cooling  
slowly, 220 C

## METHOD



prep wheel



wedge clay



centre



bisque

The clay powder is first mixed with 30% water to make a slurry. This is then filtered down to 20% water. The mixture is placed in plug mill that chops the clay to remove air pockets. The clay is then jiggered or beaten to remove excess water and air, and then centred on the wheel and made into shapes and forms. After the clay is made into forms or shapes, it's put in the kiln for the first round of firing. After a glaze, it's returned to the kiln for the second round of firing. The glaze and second round of firing can however be skipped.

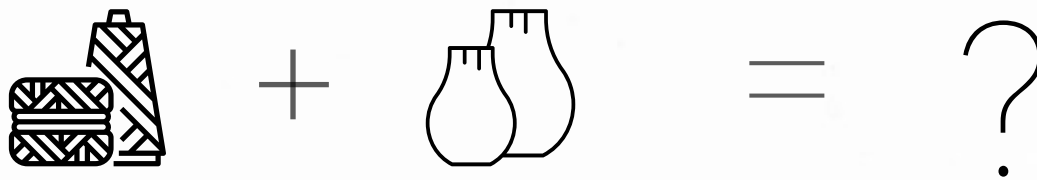
## CHALLENGES WITH FIBRE

- Hazardous to the kiln
- Pots might crack
- Fibre will burn off

## ALTERNATIVES TO KILN FIRING

- I considered the option for atmospheric drying, however, I learnt that the clay would not mature at sea-level temperatures.
- Sawdust firing is a method wherein the clayware is placed on a metal sheet in a hole dug into the ground. tops of it is then covered in sawdust, and that's lit to fire. The top is covered with another metal sheet. In a couple of hours, the clay should have matured. However, for this process to work, we must have a backyard, which is hard to find in Bombay.
- Raku Firing
- Natural Kilns, as found in Bombay's Dharavi, would be an efficient and quick way to test out our samples. A light is put out in an enclosed space made of mud to fire clayware.





Lighter in weight / Match the same product with different ingredients /  
Strength / Colour and Texture / Potential to make longlasting products





## Will adding fibre affect the plasticity of clay?

Possibly. The answer to this could have been attained only after the process of making samples. There are small organisms that grow in clay, which help increase its plasticity. Fibre, since very rough in texture, can potentially break up the smoother nature of the clay, which may not allow it to be moulded comfortably.

## Is Clay/ Pottery Sustainable?


Many aspects of pottery don't fit into the conventional definition of sustainability. These include factors like high fuel consumption needed, in case of using electric kilns, harmful chemicals like Sulphur Dioxide are released while firing.

However, there are many aspects of pottery that don't particularly harm the environment as well. For starters, the above 2 problems are supply chain problems, and can be dealt by avoiding glazes and using fire kilns. Since clay is also a renewable, natural resource, it doesn't need the addition of synthetic materials. It has low transport duty for raw materials since it's available freely. However, considering, it might take more than 700 years to produce the clay we need, it validates the usage of my fabric as a volume - addition. The clay we potentially work with can also be downcycled clay, coming from broken ceramics in the kiln.









And, it requires approximately 10 litres of water to produce one sheet of paper. India's domestic recycling only produces 30% of the total paper demand.

*can we change that?*



Handmade paper  
from recycled paper  
with dried flowers

Handmade paper  
from recycled paper  
with dried flowers

Handmade paper  
from recycled paper  
with dried flowers

Handmade paper  
from recycled paper  
with dried flowers

Handmade paper  
from recycled paper  
with dried flowers

**HANDMADE PAPER**  
*samples & observations*







## PROPERTY AIMS

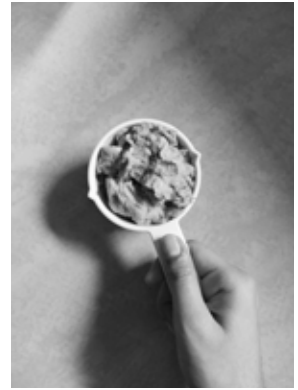
Strength against needles  
Withhold water  
Not too absorbent  
Thickness  
Adequate Paint Spread  
Lumpy  
Artisanal Aesthetics  
Waterproof



+



=



+



=

next  
few  
samples





1a

**2:1 = textile : fibre**

Fairly thin, because of thin layering. Tears easily. Low needle strength. Could use strength + aesthetics.



1b

**1:1 = paper : fibre**

Since I added extra fibres, it looks a lot more colourful and prettier. Might be better as a lifestyle product prototype.



1c i

**1:1 = paper : fibre + flowers**

very thick, sturdy. best for tableware. can withstand needle strength, highly textured.



1c ii

**1:1 = paper : fibre**

same recipe as 1ci; only a thinner spread. quite thin and bendy in comparison.



2a

**2:1 = paper : fibre**

delicate in texture; flips and folds while making, tears easily when written on with thin nibs or needle-thread.



2b

**4:3 = paper : fibre**

Tears easily when written on with a thin nib. Lumpy. Softer than the rest.



## 2c i / Variation of 2a

**2:1 = paper : fibre**

quite thick. flowers are stay on. but dried in a weird shape.



## 2cii

**1:1 = paper : fibre**

good thickness, but dried like a papped. Maybe because I removed it half way through drying?



2f

**1:1:1 = egg cartons :  
corrugated : fibre**

nice thickness and  
bendability. a softer blend  
than 2cii and 2ci.



3a

**4:1 = textile : fibre**

Softest paper pulp yet.  
Flipped and tore/ split.  
Consider soaking it in  
water only for 1 day.





sample 3b / 4:3 =  
paper : textile fibre

Flipped a little more easily  
with the extra fibre.



4a

2:1 = paper: fibre

Flowers might not work -  
fungus? more the fibre, more  
the malleability; thicker the  
paper content, sturdier it is.



4b

5:6 = paper: fibre

Highly textured, fairly thin spread.



2e

1:1 = paper: fibre

quite thick. soft in movement.  
petals keep coming off -  
need a fixant









## General Observations

*for the whole batch*

- Add fibre in the blender with the paper, or it gets lumpy. If separately, tear into really fine bits. But still not the best option.
- Put aesthetic additions INSIDE the mixture and not only on top.
- Dont remove the drying sheets too early. They dry stiff then.
- More the fibre, more the malleability; thicker the paper content, sturdier it is.

*\*all these observations are qualitative in nature because of the absence of labs and testing facilities to provide quantitative or metrical results.*





26-10-2004  
11-Flowers  
Paper Fiber + Blue

26-2004  
11-Flowers  
Paper Fiber + Blue

26-10-2004  
11-Flowers  
Paper

A piece of white, textured paper mache is shown against a dark background. The paper mache is irregularly shaped and has several seashells of various sizes and colors embedded in it. The shells include a purple and white scallop, a large white shell, a small white shell, a ribbed orange shell, a small white shell, a ribbed orange shell, a small white shell, a small white shell, and a small white shell. The paper mache has a rough, fibrous texture and is set against a dark, possibly fabric, background.

**PAPER MACHE**

*samples &  
observations*

## PROPERTY AIMS

---

Durability

Should stand

Shape Retention

Should catch onto paint

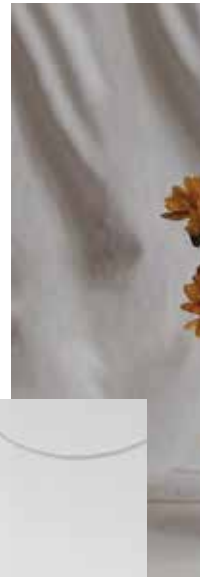
Medium level lumps

Aesthetically pleasing

reference  
board



unfinished, organic shapes



lumpy



intentionally cracked



Tableware // organic, raw, unfinished, abstract,  
wonky, lumpy, intentional mistakes





abstract



imperfect, wonky, unconventional

structured, but imperfect





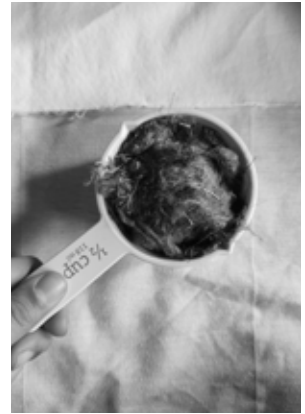




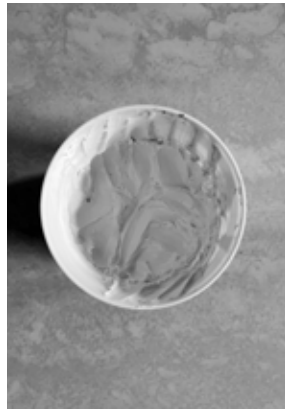
+



+



+



=

next  
few  
samples



5a i

**4 : 2 : 0.35 = paper : fibre :  
glue // + flour + oil**

quite clumpy, not smooth at all. keeps breaking while moulding. Moulded, thus sturdy.



5a ii

**2 : 1 : 0.35 = paper : fibre :  
glue // + flour + oil**

quite clumpy, not smooth at all. keeps breaking while moulding. Unmoulded, fairly difficult to sculpt. Small, so relatively easy.





### 5a iii

**2 : 1 : 0.35 : 0.5 = paper :  
fibre : glue + putty // + flour  
+ oil**



Sticky; the water consistency was a lot? However, excellent texture and works beautifully on moulds.



### 5a iv

added flour to dust the mixture from 5a-ii to achieve a clay/ dough like consistency. was a lot more easier to handle - like child's clay.





5a v

**1 : 1 : 0.45 = paper : fibre :  
glue} + flour + oil**

Sticky; the water consistency was a lot? However, excellent texture and works beautifully on moulds.



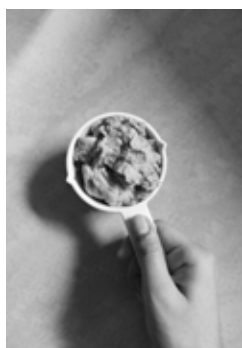
5a vi

**1:1: 1/10 = paper:  
fibre: putty**

Fairly comfortable to handle in comparison to 5av. Still crumbly and more textured than desired.







2

+

:



1

==

paper fibre mix  
common for  
the next few  
samples.



6a

**2 : 3 = paper mix : glue //  
flour to dust + oil**

quite clumpy, not smooth at all. keeps breaking while moulding. caught onto a fungus perhaps because of the flour/ oil.



6a ii

**1 : 1 = paper mix : putty //  
flour + oil**

fairly easy to mould, but not the best finish. Very rough.

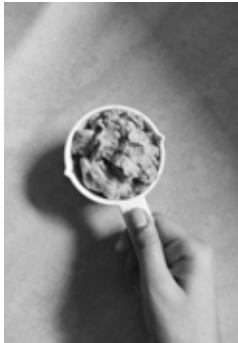












1

+



1.3

=

paper fibre mix  
common for  
the next few  
samples.



6b

$2/3 : 1/8 = \text{paper mix} : \text{glue}$   
// + flour + oil

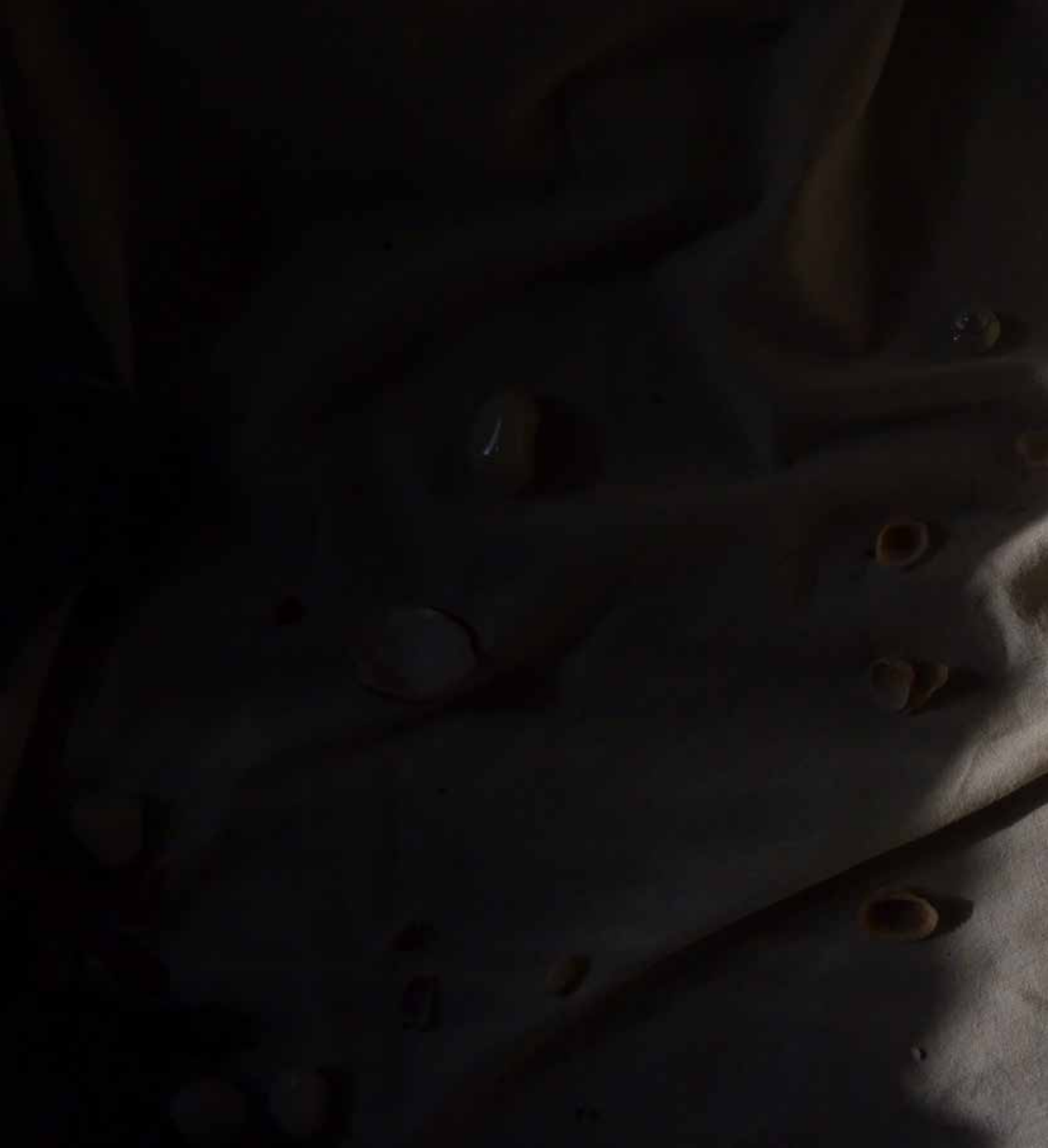
very lumpy, caught fungus.  
highly textural.



6c

$1/2 : 1/8 = \text{paper mix} : \text{putty}$   
// + flour + oil

far more consistent, less  
lumpy, yet not the perfect  
texture







4

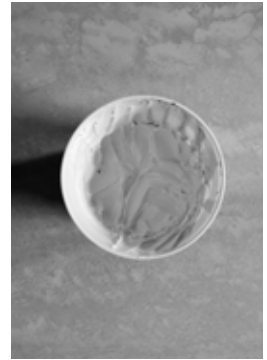
+

:



2

+



0.75





5a vii

**1 : 1 = paper mix : putty //  
flour to dust + oil**

sticky, fairly runny, yet holds shape a lot better. Product was textural, and of good consistency.



5a viii

**1 : 1 = paper mix : putty //  
increased flour + oil**

easy to mould - the best yet, retains shape.







1.5

+



1.5

+



3/64





5a ix

1 : 1/10 = paper mix : putty  
// + flour + oil

extra fabric makes it lose  
plasticity. Thus difficult  
to mould.



5a x

1 : 1/10 = paper mix : putty  
// + flour + oil

extra fabric makes it  
lose plasticity.

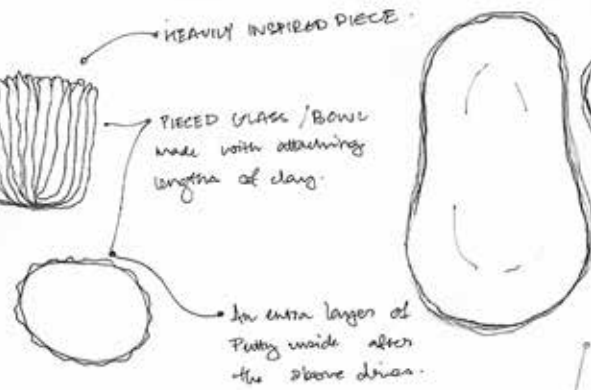
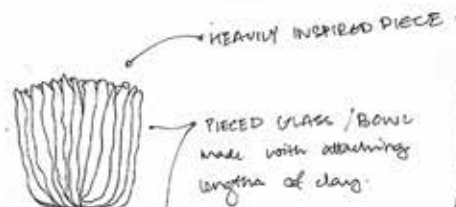
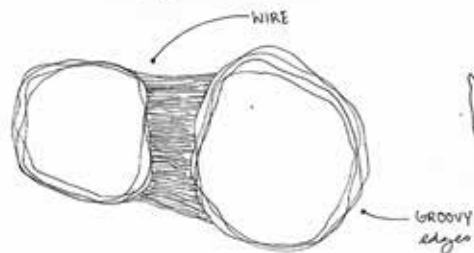
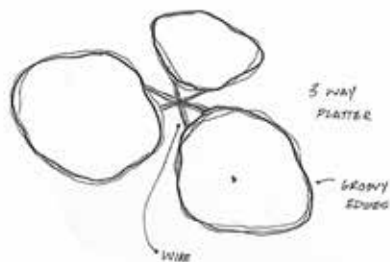
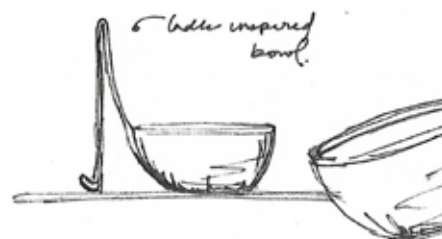
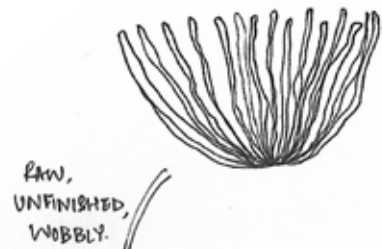






sketches

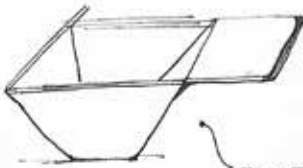
phase i





open shaped  
jelly-fish  
bowl

made out of  
lengths of clay.



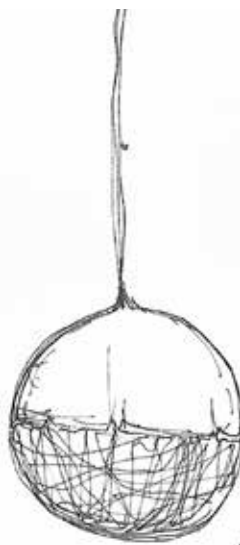
Breakfast &  
fruit bowl  
situation



tall bowl  
deep dish.

MULTIMEDIA

PAPER MACHE  
lampshade.

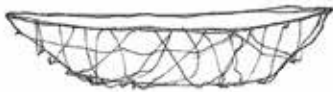


wiremesh.



Patch  
of fabric

jelly fish  
bowl but  
chaotic.



double layered/  
caged  
bowl.



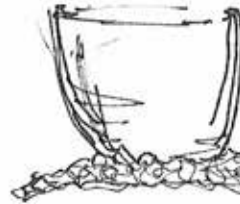
some  
concept  
on a  
plate/  
platter.

loosely  
done  
clay



merge.

egg



mounted  
bowl.

clay or  
seashells.



TRICE

Shell  
around  
a ring

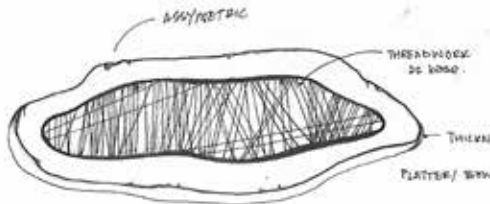


SLAB  
PLATE

ASYMTRIC



textured  
lines.



ASYMTRIC

THICKNESS  
as base.

THICK  
PLATE/  
SLAB

THICKNESS  
as base  
THICK  
PLATE/  
SLAB



ASIMTRIC

ASIMTRIC



SHALL  
THICK



RIGHT

STONES/  
beads



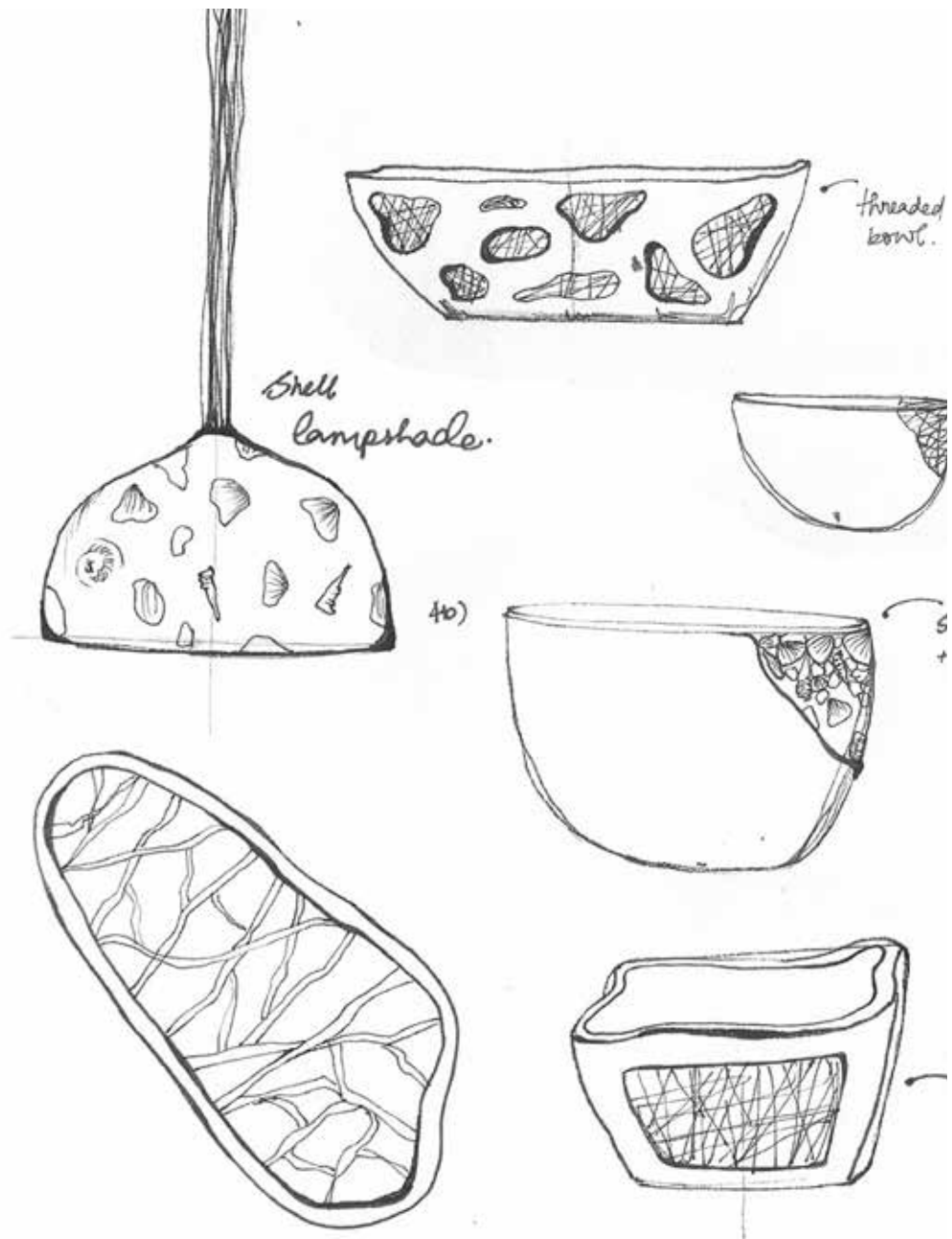
Asymetric  
shallow  
bowl.

minimal,  
raw.

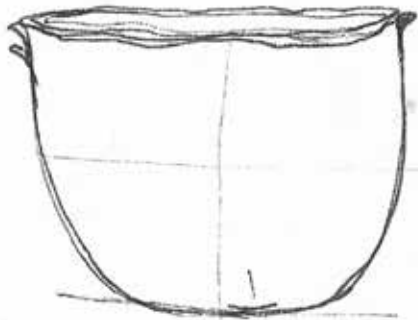
SHALL  
are  
inspired  
by  
the  
texture  
of  
stones  
(or  
beads?)

sketches

phase ii





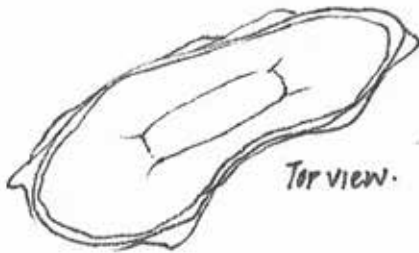


groovy  
edges  
bowl.

Topography  
bowl.

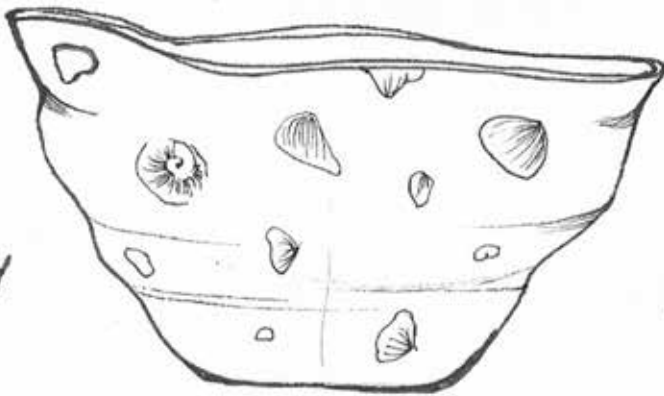
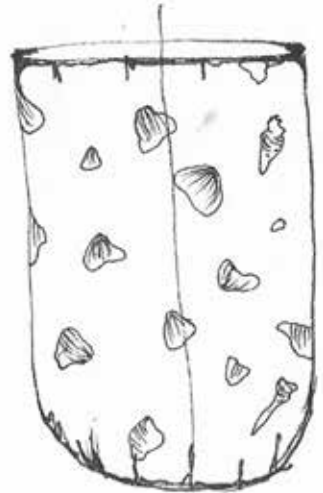
wire  
mesh

shells.  
pebbles.



Top view.

Shell  
fumbler.



threaded  
bowl.

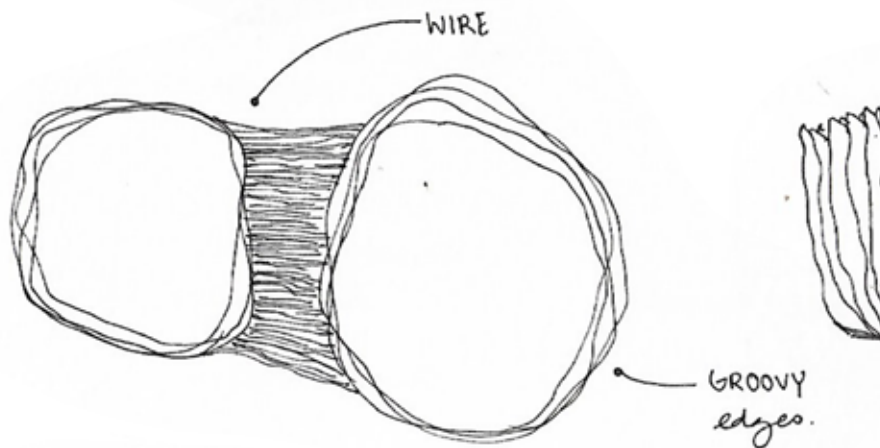
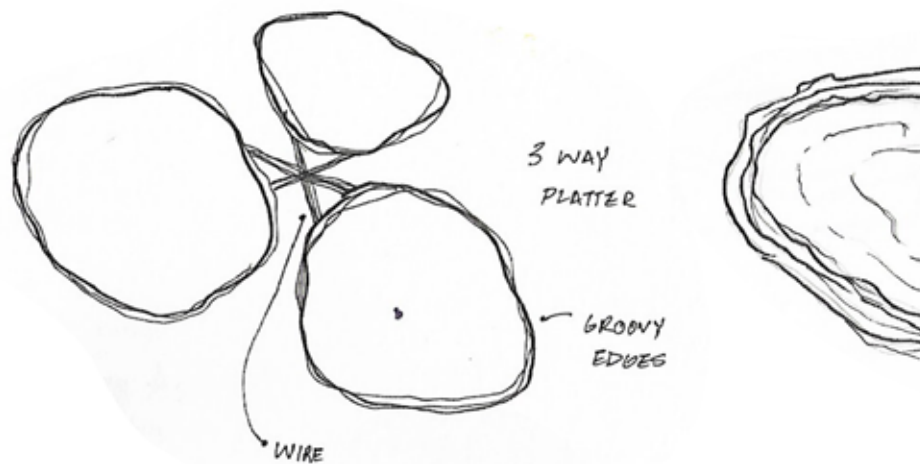
shell asymmetric-  
bowl.

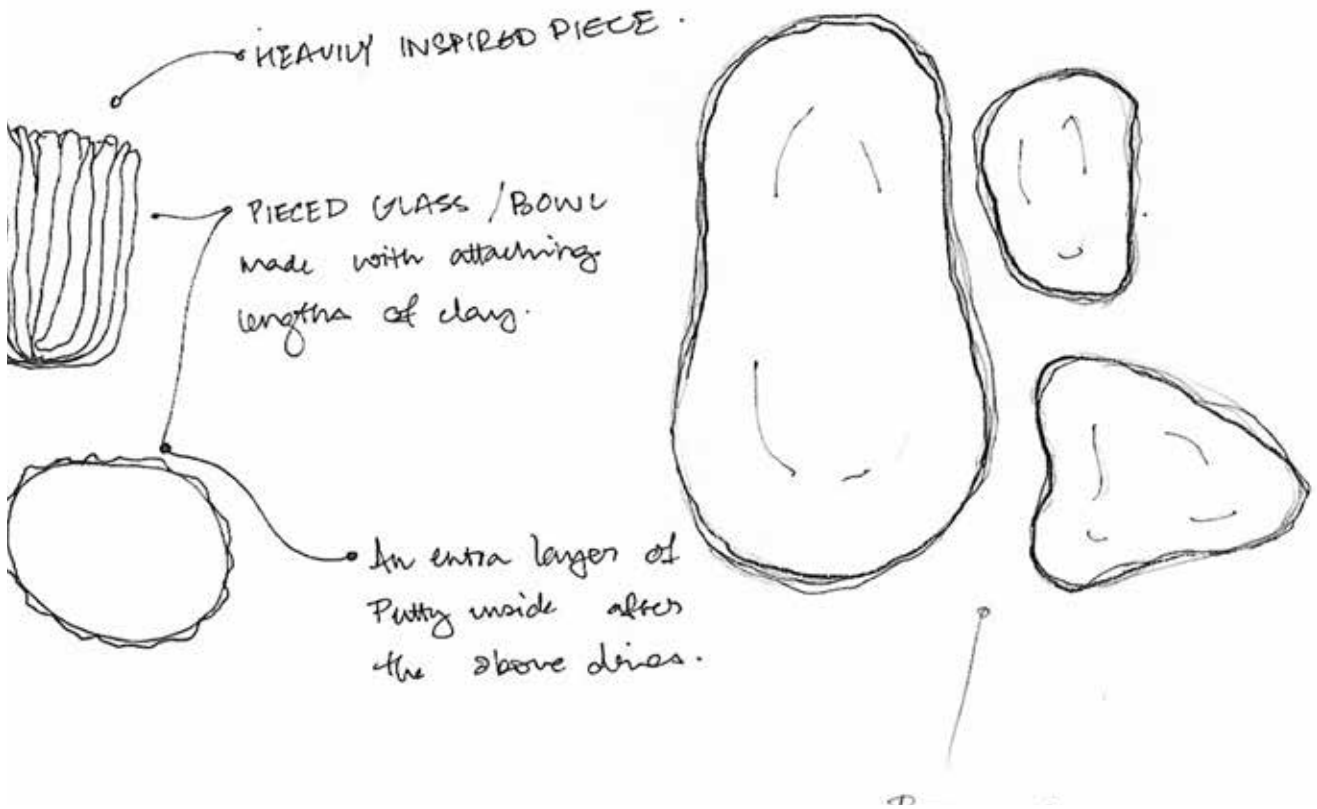
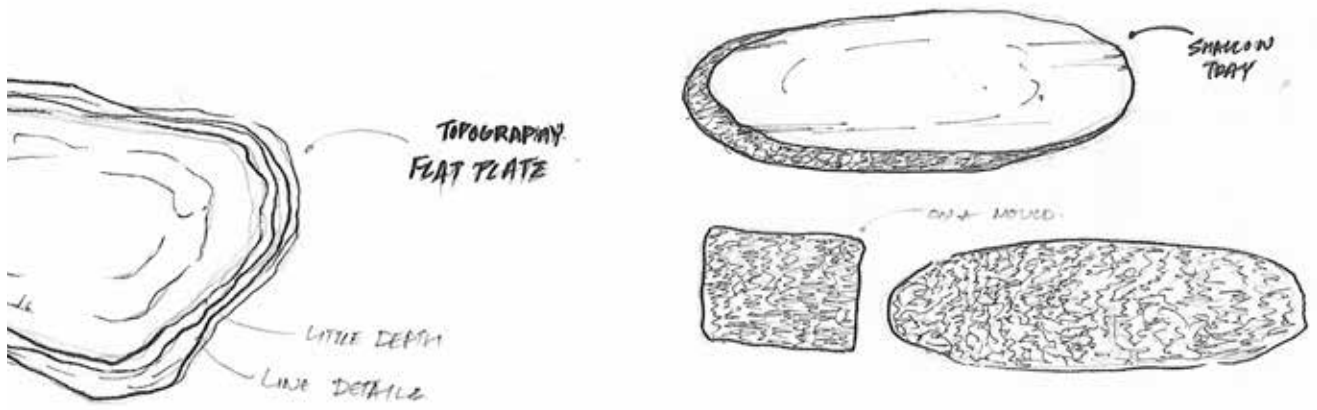


Top view.

sketches

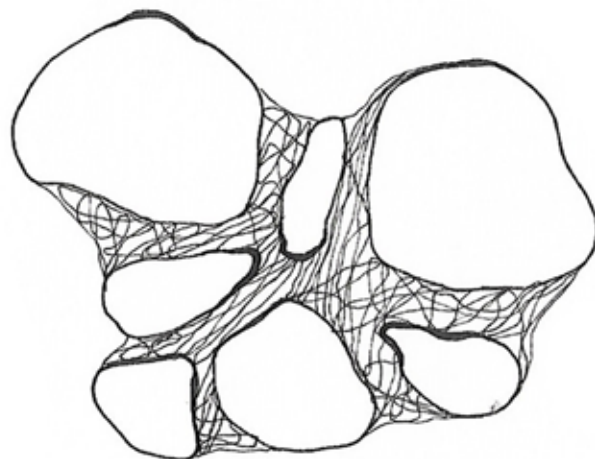
phase ii



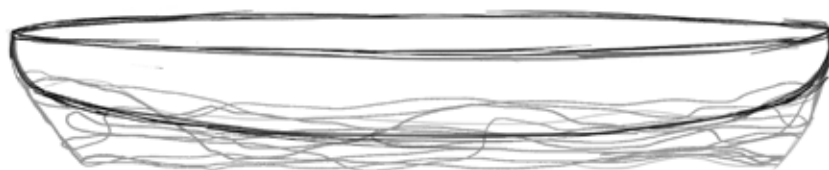
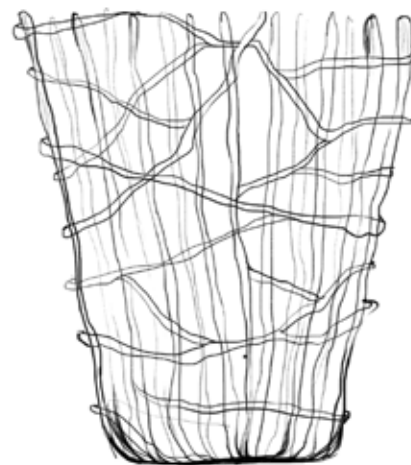


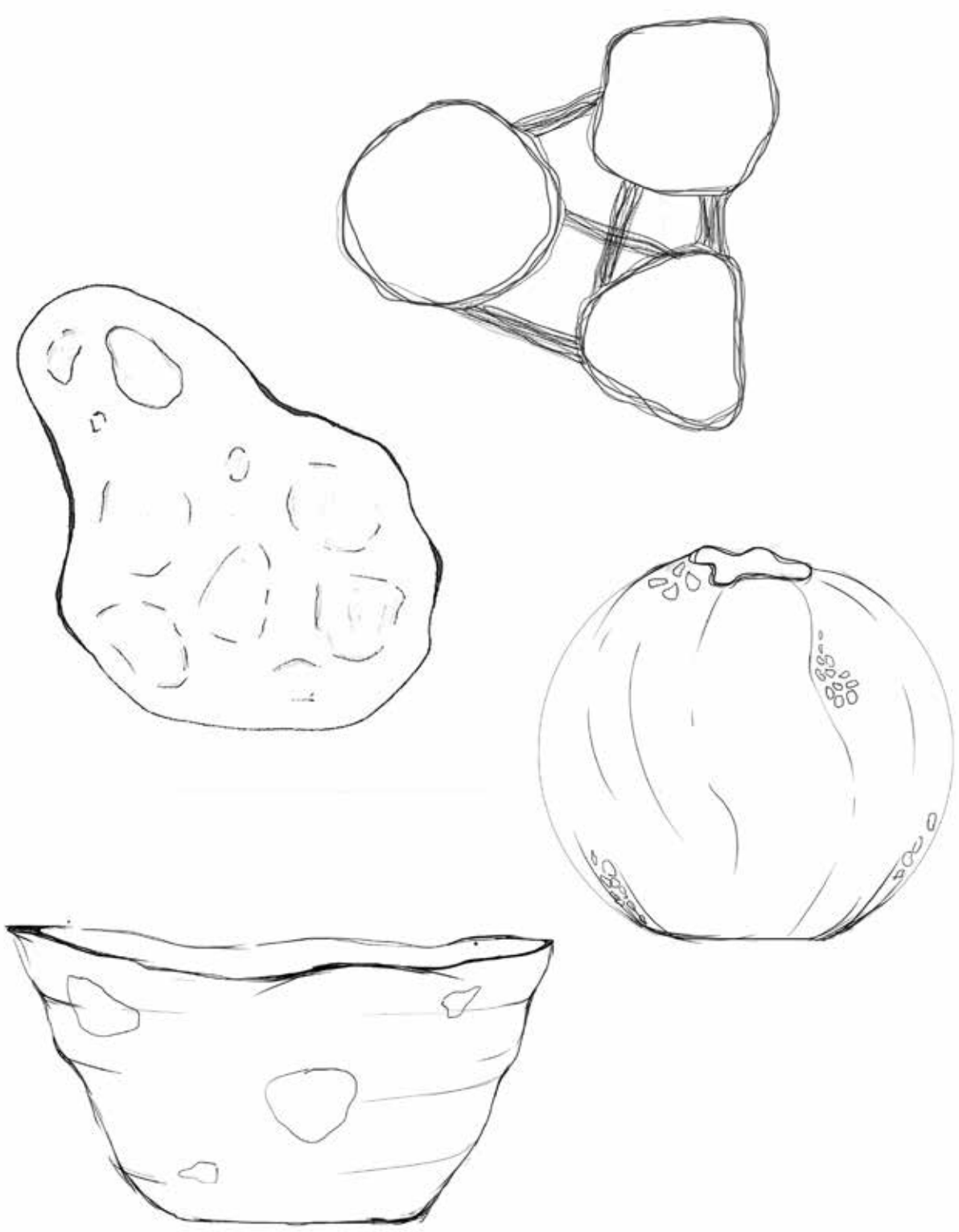
sketches

phase iii

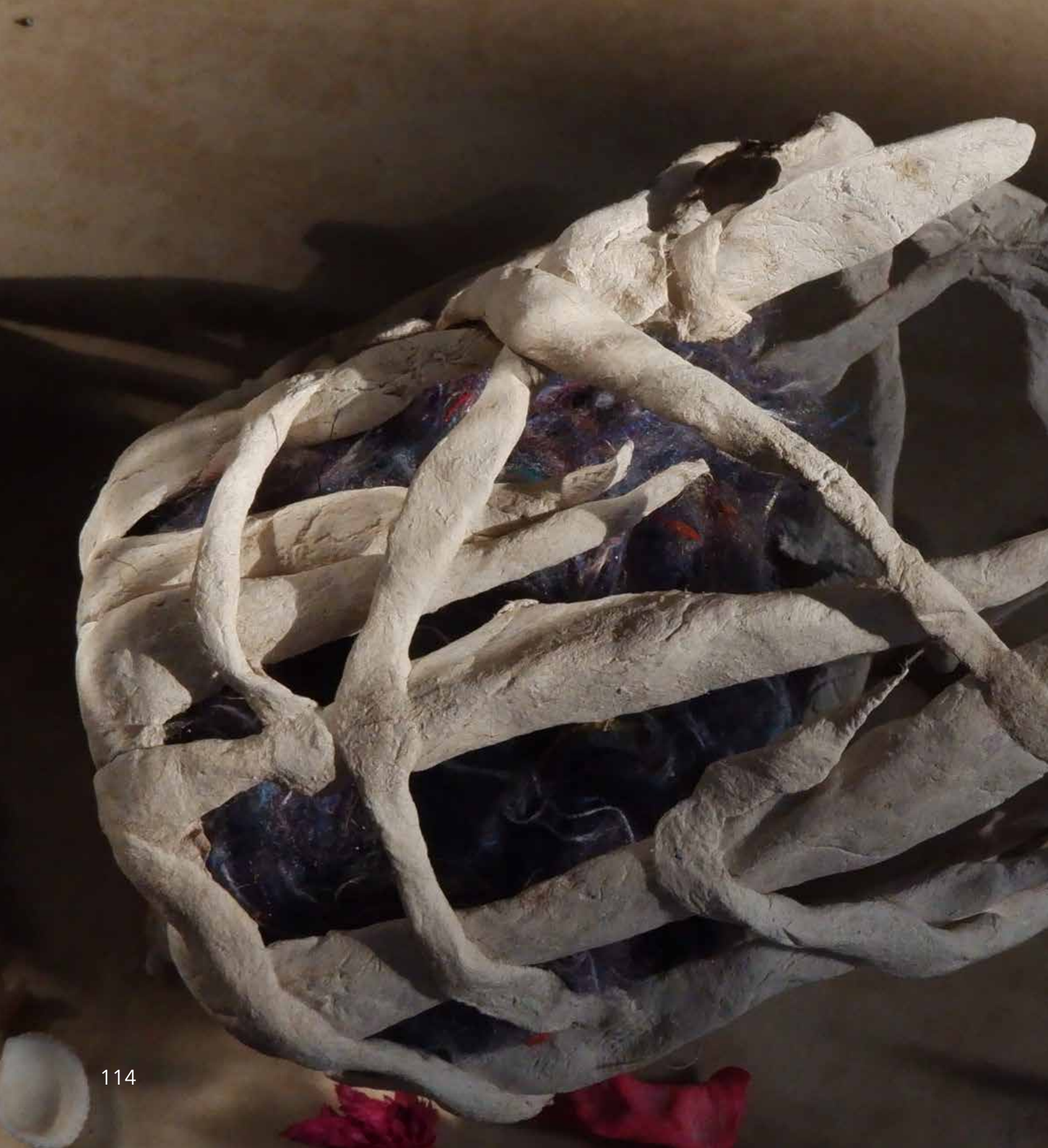


THE  
*wonky*  
SERIES









A sculpture of a creature with a human-like face and a dragon-like head, made of grey, textured material. The creature has a human-like face with a red mouth and a dragon-like head with a blue and red mouth. The sculpture is set against a dark background with a light-colored floor.

next  
level of  
prototypes







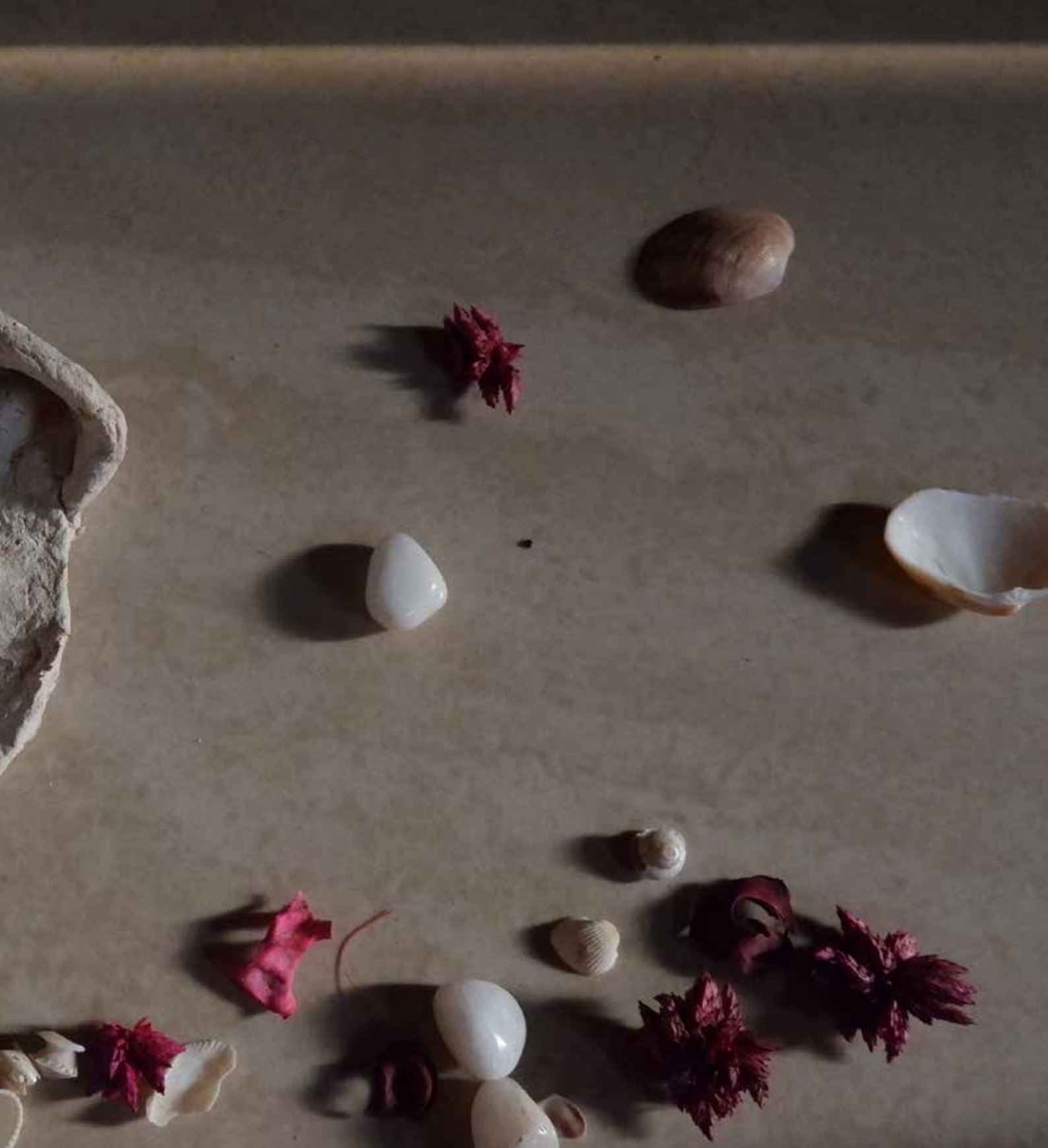




**Prototype 1:**

Very hard to craft. The clay kept breaking owing to reduced plasticity because of the fibre. Another reason being the strings being unmoulded. The reason it is in structure is because of the mould.







**Prototype 2:**

Very hard to craft. The clay kept breaking owing to reduced plasticity because of the fibre. The first part of making it was on a mould, wherein it stayed in position. However, the second part, where I had to make it wonky, led it to falling apart. Thus proving that it needs further plasticity, or a mould, or can be crafted mould-less only minimally.



## General Observations *for the whole batch*

- More the fabric, less the plasticity. Favourable to keep the ratio 2 : 1 = paper : fabric.
- A lot of flour and oil, leads to moulds/ fungus. Substitute with talcom powder.
- Working with putty gives desired results in terms of colour, texture and strength.
- The samples are voluminous yet incredibly light.
- Needs to be made either with a mould, or unmoulded with a minimal design

*\*all these observations are qualitative in nature because of the absence of labs and testing facilities to provide quantitative or metrical results.*



## gallery of rubble

shoot references

The idea is to create a very organic and fresh approach to all my samples - make them raw, but with a scientific thoughtful background. A museum of things that were once considered waste.



*lighting*

*lightin*



Lighting //  
Gentle, light & shadows,  
lots of natural looking light  
reflections through glass.



g

direction



direction



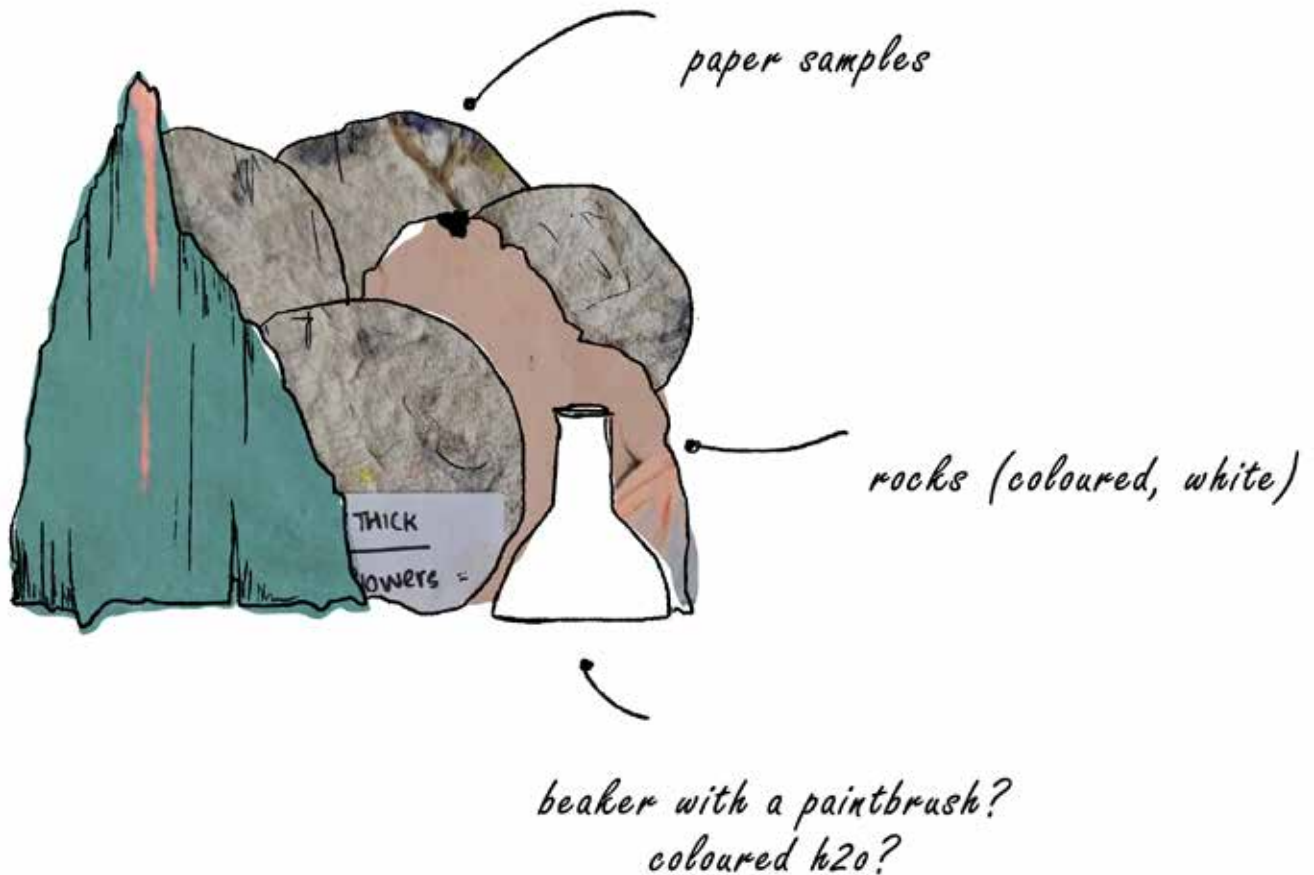
lighting

Props //

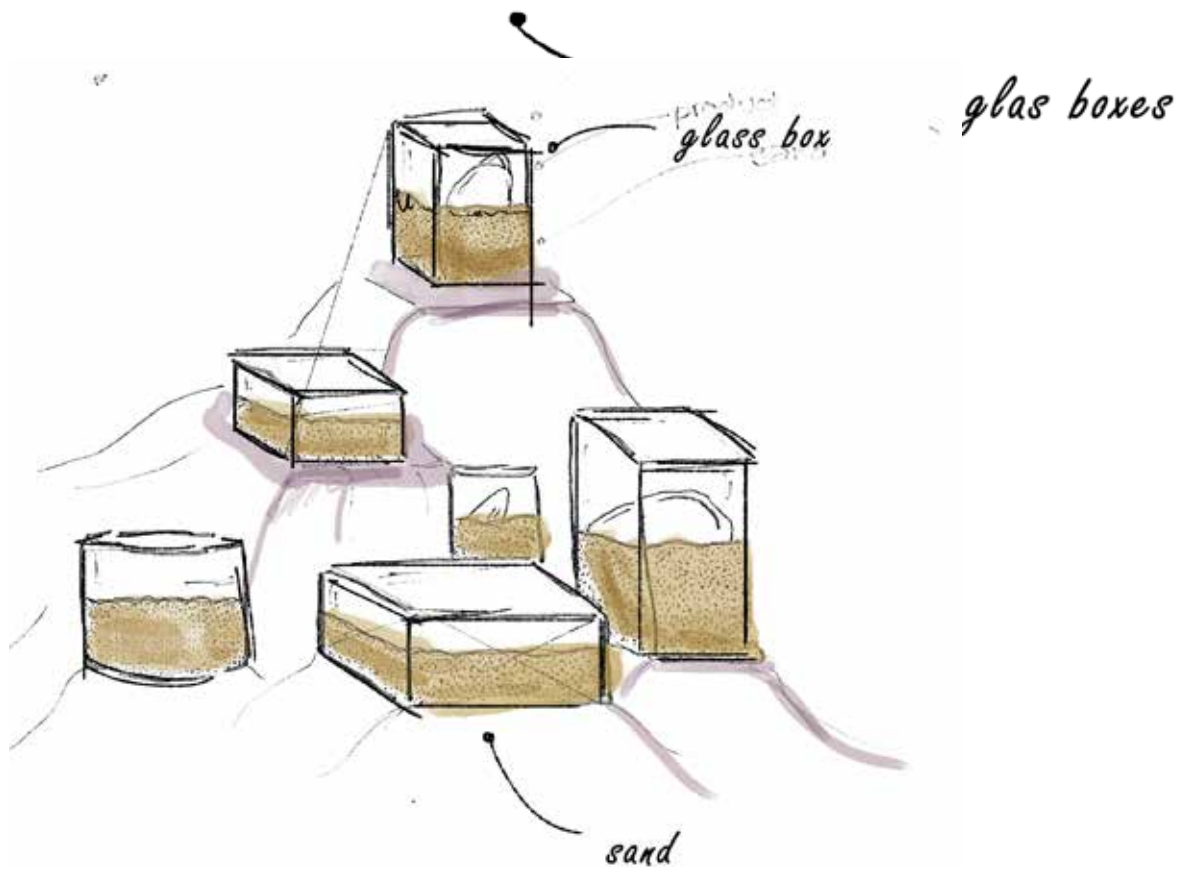
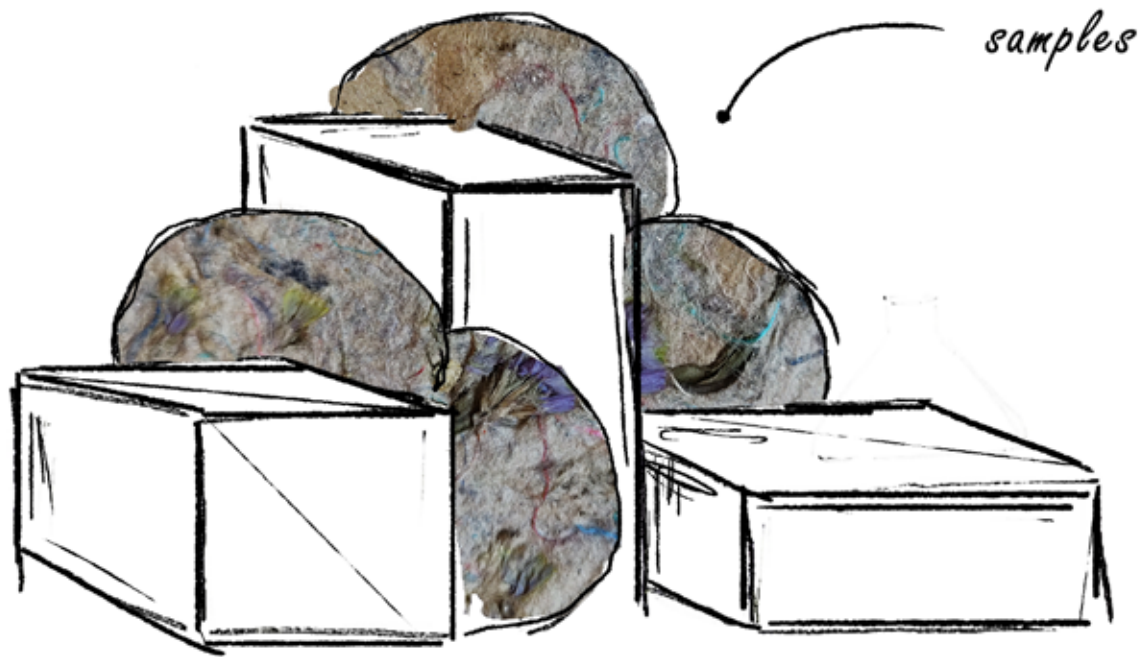
Stones, paper, wood, sand, rocks, pebbles, cleaner props - no clutter, test tubes and beakers with water and pieces of flowers, glass boxes. Fabrics?


## RAW IDEATION SKETCHES

raw ideas born from the previous referencing; rocks, paper, beakers, glass boxes and sand. that's how I would want my photographs to look.









who will  
buy this?



## **GEOGRAPHIC**

India; Tier 1 & 2 Cities.



## **DEMOGRAPHIC**

Men, Women & Non-Binaries / 25 - 40 years /  
Annual Income above 5 - 10 lakhs  
per annum



## **PSYCHOGRAPHIC**

Keen interest in sustainability, community  
driven products, strong understanding of  
their own & minimal aesthetics. Enjoy  
buying conceptual products & experiences.  
Educated about issues in society & pop  
culture, aspirational, luxurious lifestyle.



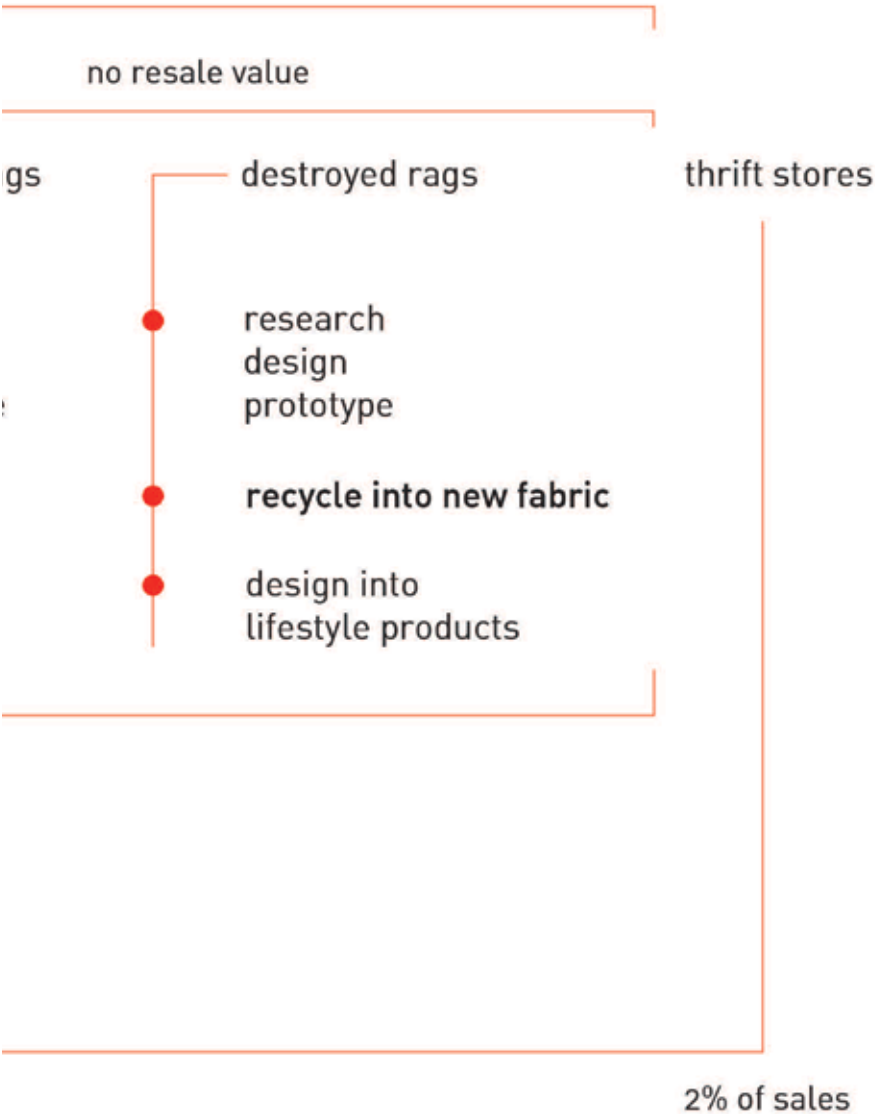
## **MARKET POSITIONING**

High Luxury, Conscious Luxury,  
Luxury Craft Market.



amples

ing







# c o n c l u s i o n

I was able to achieve a level 3 of prototypes in my material study. Additionally, I conclude that it is physically possible to use shredded textile fibres as an additive in making paper and paper mache. However, through the course of the project, I have taken down multiple observations that have to be further worked on to prove better market and product capabilities.

This study was a hollistic learning experience. I was able to tackle a topic I was extremely passionate about, while honing onto other skillsets like talking to people, getting things done, cold calling, applying multidisciplinary approaches, time management, matching new materials to consumer markets, and finally, working from home while balancing life with work.

For the love of waste,  
Namrata.





from dust we rise,  
but, how do we return?

