BLOW

IssyB. Designs

About the Project

This capsule collection was designed around the craft of glass blowing. Gaffers gently blowing into steel pipes, inflating molten glass into bubbles. This inflation was extremely important in the design development of Blow. The collection focuses on the elements of transparency, curvature, and bubbling that occurs in blown glass.

I was drawn to this craft because of its bubbly and colorful nature. The objects created in this craft are dainty and delicate, crafted with incredible skill. My design aesthetic is very whimsical and bright which lent itself well to the craft. I was able to utilize different colored glass blowing techniques as inspiration for original textile developments. The result of my research and textile work culminated in six final looks.

The History of Glass Blowing

The First Glass Blowers
1st century bce.

Cup. 1-99 bc.
Glass with pale green color; mold-blown.
Overall H: 7 cm, Diam: 8.9 cm.
Corning Museum of Glass.

The craft of glassblowing was first seen in Sidon, Aleppo, Hama, and Palmyra. Syrian craftsmen began blowing glass into molds but later were able to manipulate it into organic shapes on through shaping techniques. The first glass pieces were made to be traded to the Roman Empire.

Trade routes in the Middle East brought glass to Venice.

Venetian Glass
13th century ce

The glass work of Venice quickly became the best in the industry. The Italian government wanted to keep the techniques exclusive and moved the glass blowing studios to the secluded Island of Murano.

Venetian Goblet. ca. 1500.
Glass with enamels and silver with gilding.
H: 23.5 cm Diam: 14.5 cm
RISD Museum

A few glass blowers ran away from the Island and spread the techniques around Europe.

Glass in America
1739

German colonist Caspar Wistar founded the first successful glass blowing factory located in Pennsylvania.

Decanter Engraved with Battle between the USS Hornet and HMS Peacock. 1813-1816. Glass, colorless engraved with applied decoration.
H: 27.9 cm, Diam 15.3 cm.
Corning Museum of Glass.

MURANO

The Island of Murano, lead the glass blowing trade for 500 years. Italian craftsmen and alchemists worked and lived on this secretive island developing wondrous techniques and strategies for glass blowing.

Glass from the Island was often embedded with tin or flecks of minerals leaving the pieces to shine with an iridescent glow. Another development was the use of metal oxides to create color.

The glass blown on this island was the thinnest, most vibrant, and most refined glass in the world. The techniques invented here are still used today.

Both colored glass and powder soda lime glass are exported from Murano today.

Lime and soda ash are added to pure silica powder to create a more workable glass.
Without additives pure silica only becomes malleable at 4500 Fahrenheit.
By adding Soda lime the melting temperature is lowered to 2,200 Fahrenheit.
This discovery helped glass blowers to creat

Studio Visit at Brooklyn Glass

1. Preparing the Glass:
The process begins with powdered glass silica. With a melting point of 4500F. additives must be mixed in to lower melting temperatures. The most common additions are soda ash and lime which lower melting point to around 1,800-2,200F.

2. Filling the Crucible:
At Brooklyn Glass the process of filling the crucible happens each Friday. The powdered mixture is slowly loaded into the furnace over a 12 hour period. This slow melting process ensures a smooth even glass.

3. Collecting the "gob":
The metal blowpipe is inserted into the crucible and turned, collecting a gob of molten glass. This job is typically done by the gaffer, meaning lead glass blower.

4. Rolling the glass:
The molten glass is rolled on a metal block called a marver to shape it. In this faze the glass goes between the marver and glory hole to maintain its temperature.

5. Coloring the Glass:
There are many different techniques to add color to glass work. Often glass is rolled in shards of colored glass or a layer of hot colored glass is wrapped around the piece.

6. Blowing the Glass:
The gaffer blows into the blowpipe inflating the glass. Once inflated the glass can be shaped into its final form.

7. Removing the piece:
When the glass shaping is complete the piece must be removed from the pipe. This is done using jacks (large metal tweezers) and tapping the glass.

8. Cooling the Glass:
Once removed the piece is taken to the annealer to cool. It stays in the annealer for around 14 hours until it reaches room temperature.

Interview with Simha Furaha

Simha Furaha is a San Francisco, CA based glass blower.

What drew you to glass blowing?
I was attending a summer camp at the Crucible, a glass studio in Oakland, CA. I was too young to take the glass blowing courses but I was entranced by the glowing furnace of the glass blowing studio. When I was finally old enough I signed up right away.

What is the most difficult thing about glass blowing?
Heat is the biggest difficulty in glass blowing. Glass must remain a very specific temperature to be workable but not break.

What is the best part of glassblowing?
There is a really wonderful community within glass blowing. When you are working with someone else it is like a dance. Teamwork is necessary to craft glass pieces. The work is incredibly gratifying because of the difficulty. I really enjoy working with colors and seeing how they will interact with one another.

What types of pieces are the most challenging to make?
Venetian glass blowing is the most complicated type of glass work, it is very technically challenging. The larger a piece is the more difficult it becomes. Size is measured in gathers. Five to six gathers is really difficult because of the weight and heat. Sculpting realistic objects is also super difficult.

Does using colored glass change the process?
Colored glass changes the process because color is derived from metal oxides giving each color a different melting point. Black is a very soft color, white is a very stiff color, so black and white pieces are very difficult. Blue and green are also soft colors while reds and yellows are harder. Translucent colors are softer and opaque colors can be much harder. The more colors that are incorporated into a piece the more irregularities there will be.

How long does it take to make a piece?
Size and scale determines time. Small cups or ornaments take about 30 minutes but can be made by some in only five. More color and detail greatly extend the amount of time a piece will take. More complex pieces take around 1-2 hours and some even take 6-8 hours.

How long have you been working on this craft?
I started glass blowing when I was 14 I am now 20. I wasn't able to practice my craft during covid so I would say around 4-5 years.

How often do pieces break?
All the time. When I teach glass blowing courses the first thing I say is "glass breaks". Whether human error or temperature change glass is always breaking.

What do you do with the broken pieces?
Most studios I work at recycle glass back into the furnace. The broken pieces are separated into clear and colored glass. Only clear glass is reheated in the furnace while colored glass is not. When you see brownish and greenish bottles they are usually made from recycled colored glass.

Do you have a favorite glass blower you look up to?
Momoko Schafer is someone I really look up to. I saw that she had moved to San Francisco so I reached out and was able to work with her. I have helped her out on a lot of projects since. As another mixed race person it is really interesting to see how she puts her culture into her work. Her mind is incredibly intriguing, in the way that she designs her projects.

Mind Map

Glass

APPEARANCE

- Lustrous
- Solid
- Reflective
- Translucent
- Twinkle
- Waterlike
- Iridescent
- Silky

FEEL

- Delicate
- Smooth
- Slippery
- Cold
- Serene
- Still
- Calm
- Slick

STRUCTURE

- Fragile
- Fragments
- Shatter
- Sharp
- Pure
- Clear

SHAPE

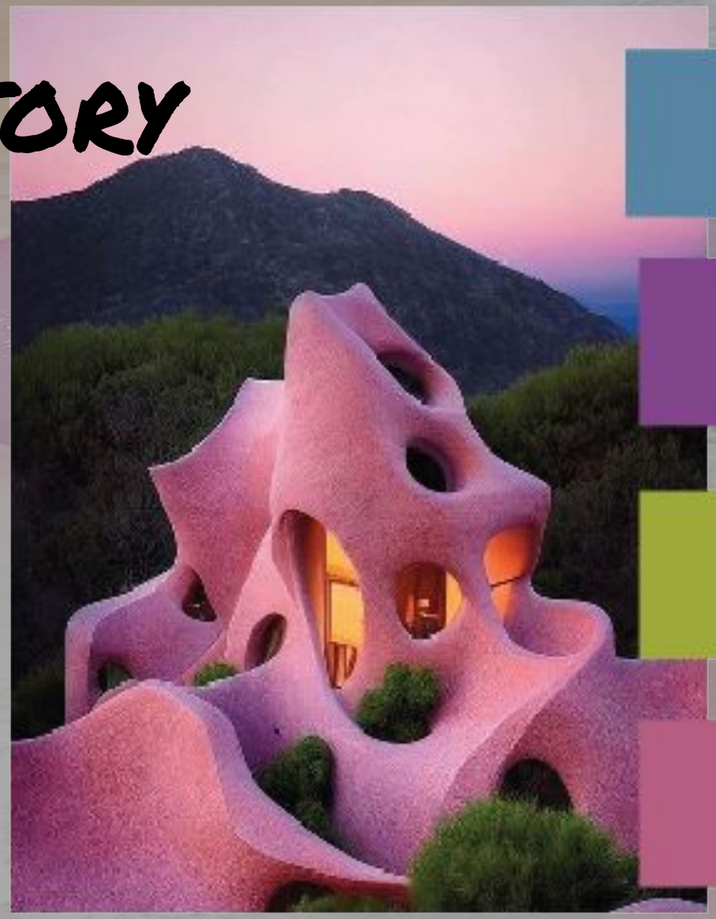
- Smooth Edges
- Expanding
- Curved
- Extrusion
- Created From Breath
- Bubble
- Blown out
- Round

MATERIAL

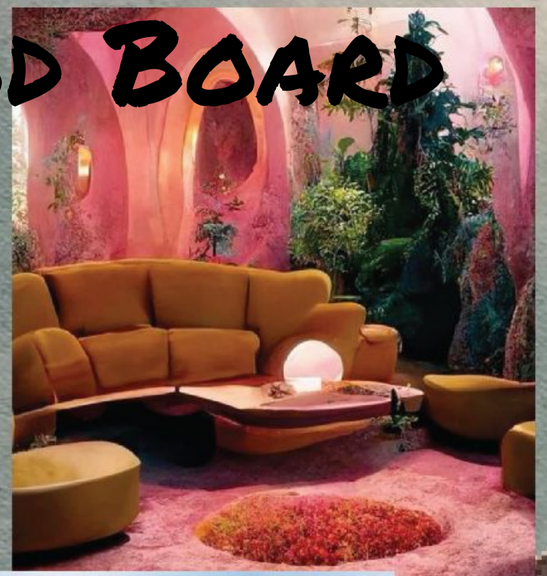
- Slow moving liquid
- Silica
- Crystaline
- Heating
- Natural
- Melt
- Flame
- Maleable

Blowing

Color Story



Mood Board



Textile Exploration

Cased Silk Painting

Casing is the application of thin layers of glass over a layer of contrasting color. The gaffer either gathers one layer over another, or inflates a gob of hot glass inside a blank of another color. The two components adhere and are inflated together, often with frequent reheating, until they have the desired form. Sometimes, the upper layer is carved, cut, or acid-etched to produce cameo glass.

Textile Exploration

Cased Silk Painting

1. Wet the Silk
2. Apply dye-na-flow silk paint
3. Mist with water
4. Let sit to dry
5. Heat fix the color using an iron

Textile Exploration

Iridescent bubble knit

Iridescence is the rainbow like effect that changes according to the angle of light hitting the surface. In ancient glass, iridescence is caused by the interference of light reflected from several layers of weathering products. On certain 19th- and 20th-century glasses, iridescence is a deliberate effect achieved by the introduction of metallic substances into the batch or has been sprayed on the surface with stannous chloride or lead chloride and reheated it in a reducing atmosphere.

Bubble Knit Steps

CO: Multiples of 4 + 3 Sts

Rows 1, 3, 5: Purl All
Rows 2, 4: Knit All
Row 6: K3, * K4 B, Knit 3 *

Rows 7, 9, 11: Purl All
Rows 8, 10: Knit All
Row 12: K1, * K4B, Knit 3 *, until last 2 stitches then K4B, K1

BO: After Row 1

Textile Exploration

Needle Felt Cane

Cane is a thin, rod, or group of rods made up of different colors, which are bundled together and fused to form a polychrome design that is visible when seen in cross section.

Needle Felt Process

Textile Exploration

Fluted Pleats

Fluted glass is identifiable by its vertical grooves. It is sometimes referred to as ribbed or textured glass

Stitching Process

Textile Exploration

Ribbon Stitchery

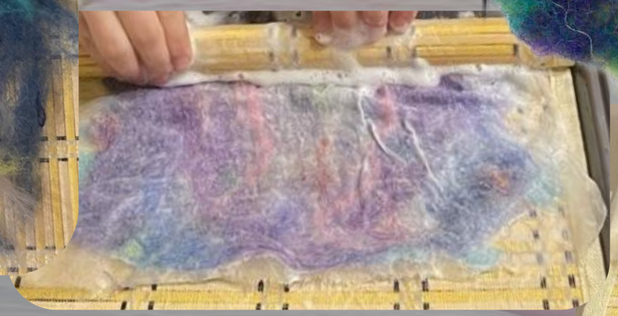
Ribbon Glass is a type of first-century A.D. Roman mosaic glass that is made up of ribbon like canes arranged in parallel rows or geometric patterns; The technique was further developed by Venetian glass blowers as a type of vetro a reticello.

Textile Exploration

Murrina Felting

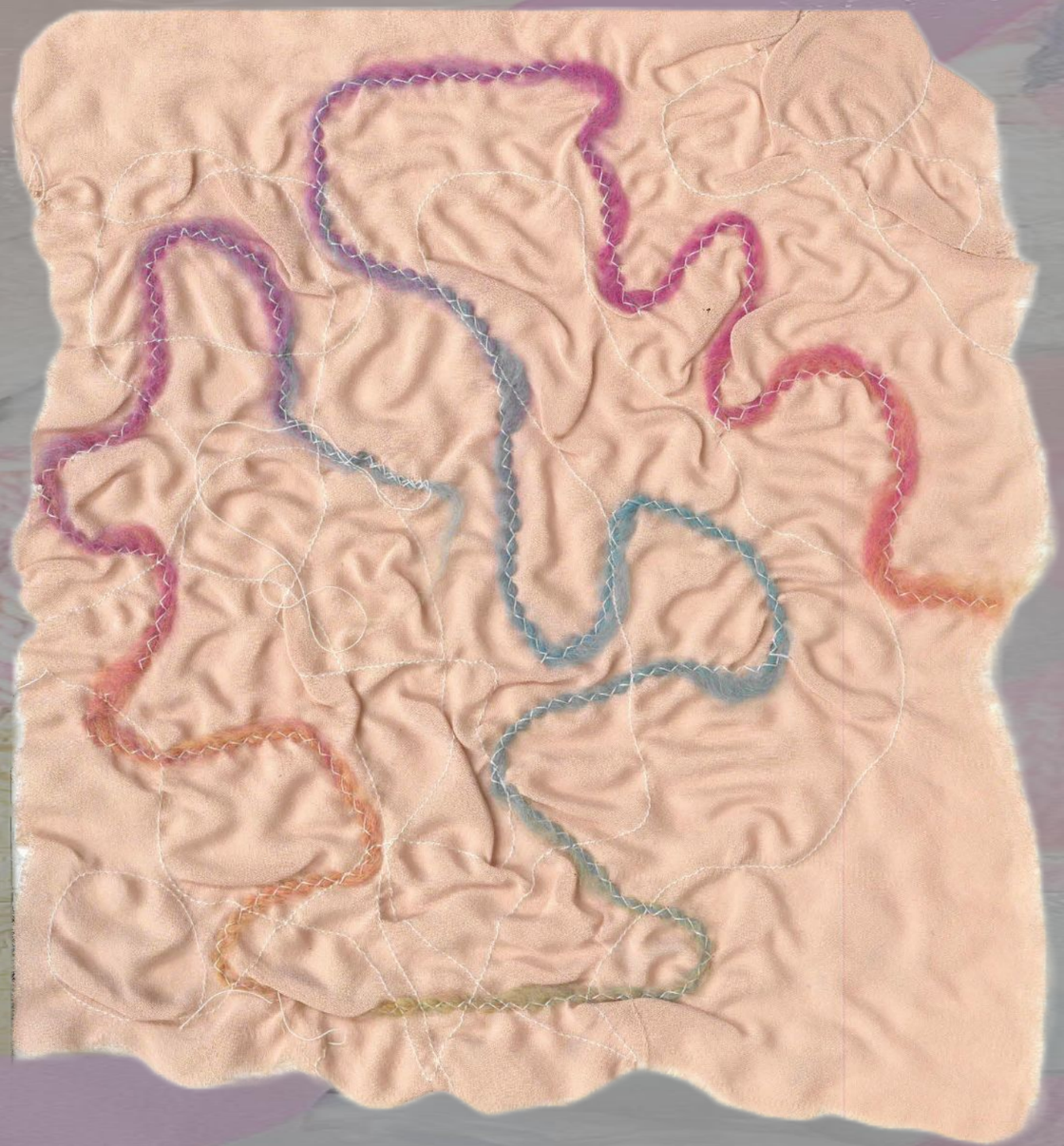
Murrina means a multi-colored element embedded in a glass object it is often made up of many cross sections of complex cane.

Wet Felting Process



Textile Exploration

Trailing Couching



A trail is a an inexact circular strand of glass. The trail is drawn out from a gather.

In the process of trailing, the gaffer pulls trails of glass as decoration on the body, handle, or foot of a vessel. It is done by laying or winding softened threads on a glass object during manufacture.

Bubble Wrap Mold and Stitching Process

DRAPING



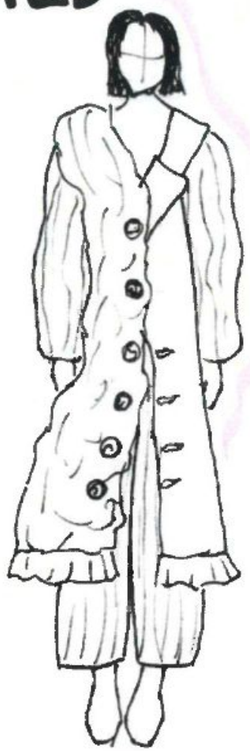


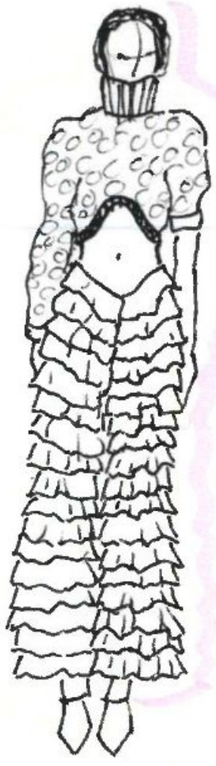


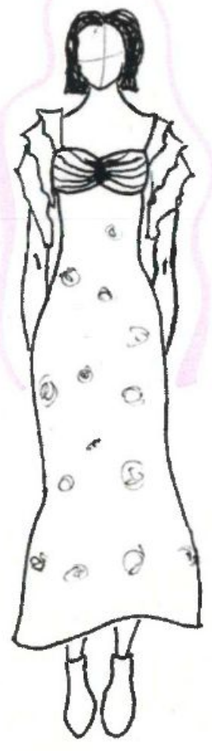




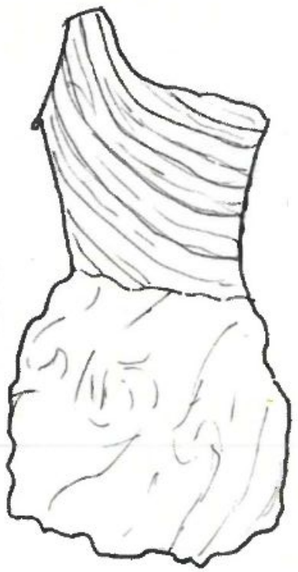

THUMBNAILS

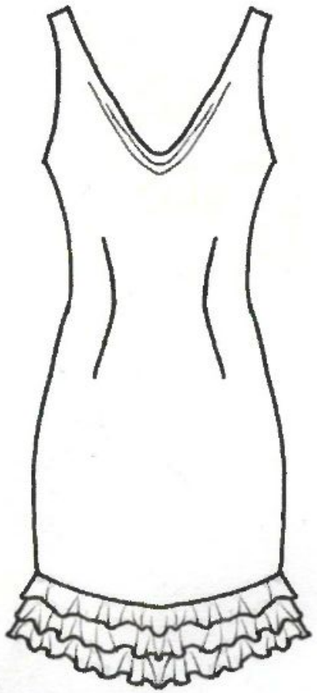


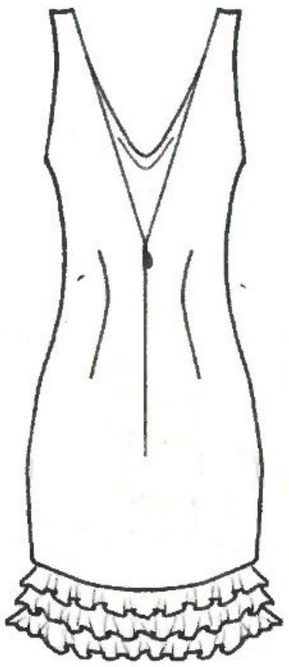




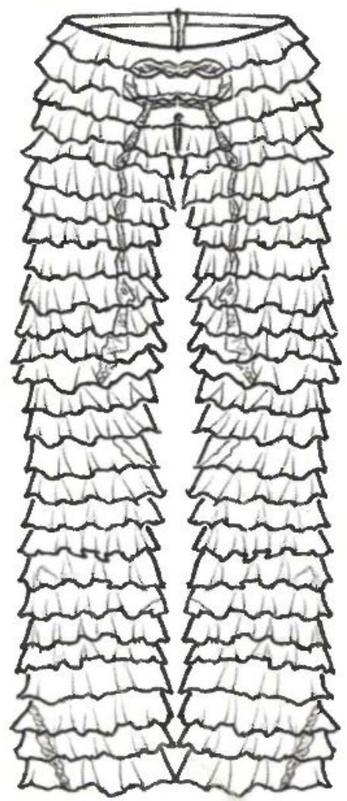
FLATS

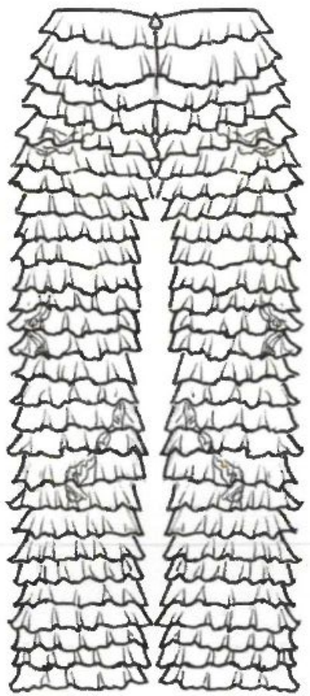


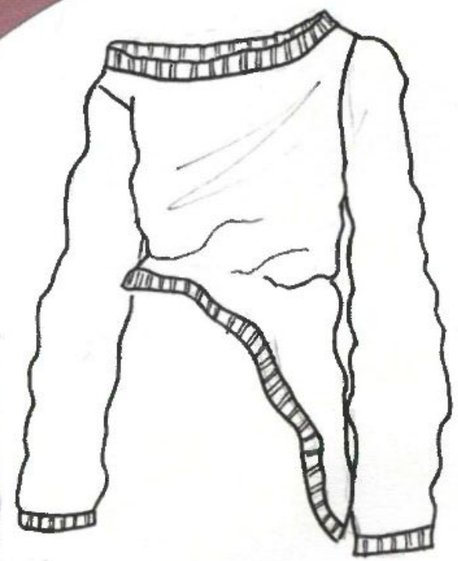


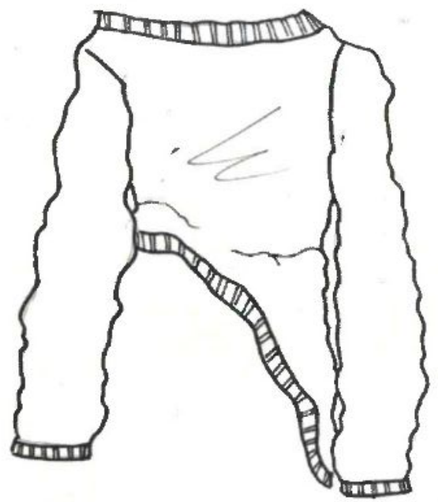


FLATS









FLATS