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PROGRESS REPORT 1

WHAT IS SCULPTURE

Three-dimensional art that can stand on its own is known as a sculpture. Sculptures vary in sizes, and may be small enough to fit in the palm of a hand or large enough that they can only fit in a large outdoor space. Some sculptures are representative, and may look like a famous person; others may be abstract. The materials used in sculpture vary, and anything from ceramics, cement, recycled materials, paper or synthetics may be used to produce this particular type of art. By definition, a sculpture differs from other structures in that it does not have an intrinsically utilitarian purpose.

HISTORY & ORIGIN

Sculpture was used mainly as a form of religious art to illustrate the principles of Hinduism, Buddhism, or Jainism. The female nude in particular was used to depict the numerous attributes of the gods, for which it was often endowed with multiples heads and arms.

Important milestones in the history of sculpture include: the Buddhist Pillars of Ashoka of the Mauryan period, with their wonderful carved capitals (3rd century BCE); the figurative Greco-Buddhist sculpture of the Gandhara and Mathura schools, and the Hindu art of the Gupta period (1st-6th century CE).

In brief, the flow of the growth of sculpture is as follows:

Indus Valley Civilization (c.3300-1300 BCE)

Mauryan Sculpture: Pillars of Ashoka (3rd Century BC)

Ajanta Caves (c.200 BCE - 650 CE)

Under the Kushans, sculpture from Gandhara and Mathura art went on to influence artists across India,

Elephanta Caves (c.550-720)

Pallava and Pandya Sculpture from South India (600-900)

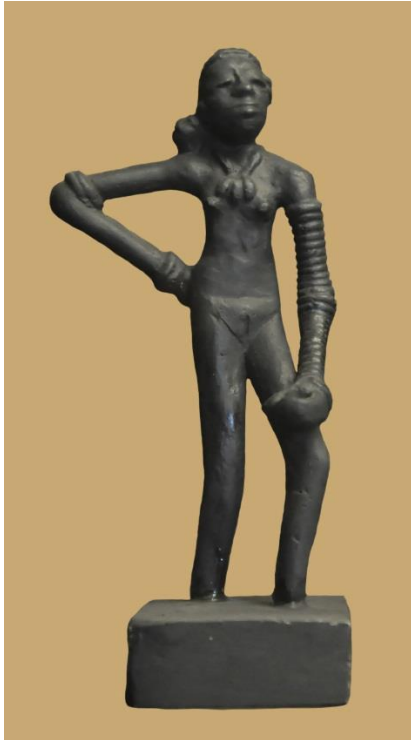
Ellora Caves (c.600-1000)

Chandela Stone Sculpture in Central India (10th-13th century)

Chola Bronze Sculpture of South India, Sri Lanka (9th-13th century)

Famous Sculptures that impressed and inspired me

- 1) The Ashoka Pillars
- 2) Sanchi Stupa
- 3) Ajanta Caves
- 4). Kailasa Temple
- 5) Dancing Girl of Mohenjo-Daro



VARIOUS MEDIUMS OF SCULPTURES

Brick sculptures

Ceramic sculptures

Clay sculptures

Concrete sculptures

Fabric sculptures

Fiberglass sculptures

Glass art

Hardstone carving

Ivory works of art

Land art

Metal sculptures

Plaster sculptures

Polystyrene sculptures

Polyurethane sculptures

Resin sculptures

Stone sculptures

Stucco sculptures

Wax sculptures

Wooden sculptures

DIVERSE WAYS OF ASSEMBLING FOUND OBJECTS

We have mentioned various mediums and now we go on to how and what to add as adhesive or glue.

Polyester adhesives are used to bond stone to stone, and stone to metal for use on the inside; acrylic is used for exterior work. Polyester adhesives are composed of the resin and catalyst. They are simple to use and provide an inexpensive, permanent, high strength bond.

We made sure that the adhesive was colored to match the color of the stone we were using.

We used acrylic paint to color the glue before adding the catalyst. If we do not color the glue, it will turn yellow with age.

The two basic types that we experimented with are:

Knife Grade used for filling cracks and installing mounting rods.

The colors are either transparent (not clear, more like a light yellow), and a white. Knife grade has the consistency of room temperature butter.

Flowing Grade used to repair broken items etc. The flowing grade has the consistency of syrup. The white is rather opaque and will not work with semi translucent stones.

We decided to henceforth work with the flowing grade as it was very receptive to polish

Experiment:

We conducted the experiment in a well-ventilated area. The smell was unbearable after a while. We were wearing disposable plastic gloves. We also kept several damp towels handy to wipe up a mess off the sculpture. We used wood tongue depressors (available at the local physician) to mix and apply the glue.

We took about a tablespoon full of the resin, put it onto a piece of white paper. We used a decent paper, not newspaper as it would have picked up the print and soak into the paper fast. We thought of using a glass or ceramic tile in future. We added colors to

match our stone. Since this is only a test, we let it sit. As it hardens it turned from a melted room temperature butter consistency to a rubber consistency in about 2-3 minutes. In 4-5 minutes it became hard and started to cure. The speed at which it hardened, depend on the amount of catalyst mixed into it. This is an important phase because this is the time during an actual installation or r

epair that we may want to do, to clean up any excess glue.

We clean up excess with damp paper towels. We made the mistake of wiping and cutting away the excess adhesive before it turned rubbery and we made a big mess. We used swab and acetone to clean up excess adhesive streaking.

EXPERIMENT

We tried using marble dust and cement to carve out a sculpture, not for only casting.

We made a mixture of 1/3 marble powder, 1/3 white cement, and 1/3 plaster.

This mixture is supposed to dry slowly, about 12-24 hours, so we started to carve it about 6 hours after casting.

We later realized that we should have mixed clear resin with the marble dust



Experiment



We mix three parts marble dust to one part cement fondue (or cement with high alumina).

At the same time we mixed two parts, one part white sand and one fondue.

This is for the casting.

We also set aside grey cement that's much cheaper than white.

When the cast was dry, we polished it with neutral shoe polish.

Experiment

We did the entire process again as above and in the end, mixed liquid polymer in the water that gave a better quality cast.

Mixing the Dust

The marble dust can be mixed with sand cement. For the best results, the cement should be white cement fondue and white sand and cement.



Mixing the marble dust with a plaster and a water based resin called polymer gives the best results when compared to mixing with white cement fondue.

We also tried mixing marble powder with one of the polyurethane resins that we procured from the hardware store, in two parts: a mix of one part marble powder and one part resin.



Colouring the Casting

To color the cast item, we first chose the color that I like, I wanted it to be black and grey veined through a white marble. Then we mix the marble with the resin and added a white pigment as the base color, making it opaque by blending the white pigment in. Then, to add the veins, we dropped black color from above. Then used the fork method and give it one long stir, left to right. Without mixing it, we pour it into our mould and moved the mould around to distribute the mix. We tap it to help release air bubbles. The trick is not to mix the veins in as it will only make the item opaque.

PROGRESS REPORT 1

INTENT;

Since I am a sculpture, my area of work is to experiment with different mediums, creating fusions, adding fixatives and basically do something that has been less tried.

TESTS & TRIALS:

Before I explain the experiments, I briefly mentioned what sculpture is, its history and origin and the flow of its growth in the Indian continent. I also mention some sculptures that have left an indelible mark on my mind and my learning of the skill has been vastly influenced by them.

It is very important to understand the various mediums that can be used to sculpt. Some are simple but others require complex equipment and an experienced team.

I had lots in mind, but I decided to choose an easy medium first and work with different adhesives. We also used catalysts at various stages of casting the sculpture.

CONCLUSION:

There were somethings I learnt hands on and some things I concluded were a miserable flop.

REPORT 2

We keep experimenting, some which look stable and some which are failures.

I've not only tried mixing marble dust/powder into plastic resin, but have used several other powders including metallic, organic and powdered local stone.



In some of our experiments, we did not 'pour' the resin into the mould, but used a layup process



- 1) We not only tried using different combinations of ingredients, in the second phase, we also started experimenting with quantity of additives. We discovered that adding more thixative, lent more luster.
- 2) To give more shine to the sculpture, we tried using gel coat on the mould.
- 3) We added wax to the resin mixture, which held on to the bronze powder that we had added in greater quantity
- 4) If we are doing the layon process, we can add heavier concentration of bronze powder or other material to weather-proof it.

Some of our experiments went wrong as going too heavy on the added particles started weakening the surface layer.

In our next experiments, we try and not make the same mistakes, but still not many go right.

- 7) We tried mixing the powder into the resin before and after the catalyst



8) We tried different coatings on the mold as they control both the surface texture/luster and migration of the particles

9) We tried using different proportions of thixatives and catalyst as these also affect the absorption of resin and powders, and give different surface lustre

FINISHED SCULPTURE

We tried spraying, dabbing, rubbing, buffing after the sculpture. Some pictures attached.

PROGRESS REPORT 2

INTENT:

By now, I have become more confident. Now I plan to use powders not commonly used like metallic, organic and crushed local stone. The fear was that they may not work

with the kind of adhesives used with marble dust and cement etc.

TESTS & TRIALS:

Some of our sculptures did crack up because the proportions were not balanced or the medium reacted adversely to the glue.

Cast resin is quite common and I wanted to use the opportunity to work on things unique. So I started to overlap the mixture and then carve and subtract. We not only tried using different combinations of ingredients, in the second phase, we also started experimenting with quantity of additives. We discovered that adding more thixative lent more luster.

To give more shine to the sculpture, we tried using gel coat on the mold.

CONCLUSION:

Some of our experiments went wrong as going too heavy on the added particles started weakening the surface layer.

PROGRESS

REPORT 3

So far, I had been mostly experimenting with ingredients. I had added a novel ingredient to an already tested one; used varied proportions of each to test the tensile nature of the cast and its durability in some cases.

Some new experiments worked which I shared with my colleagues at Triveni Kala Sangam. To take my experimentation to the next level, I decided use unusual material like plastic wrap, dental alginate etc.

But first I tried changing the time tested armature sculptures by altering the weight and volume ratio.

ARMATURE SUPPORTED SCULPTURES

"Armature" is a word we use that just means "support structure". It's like the bones for our sculpture. It keeps pieces from breaking off and while not every part of our sculpture will need an armature, it's important for pieces like arms or legs, which move away from the body and are easy breaking points. Armatures can be made out of thin or thick gauge wire, plumping pipes, sticks, dowels, or any other material that works.

STARTING THE PROCESS

I had my sketch ready. I started with the "spine" of the piece and create branches for the "limbs". Using my design sketch was helpful for forming the armature, especially as the sketch was made to-scale.

I anchored the armature in to the base before continuing.



Once the armature was ready, I started to underlayer the sculpture. Since I was sculpting in polymer clay, this came in very handy.



An underlayer can help reduce materials cost and weight, so it was a wise choice. I filled in the armature with old newspapers and later molded it with masking tape. I loosely joined this filler

material to the armature, forming just the basic shapes of my sculpture.

Now with polymer clay I started working like in other sculptures. I let it to dry a bit in the shade to let the clay reach a consistency that I could work the details in.

Thereon, I worked on textures, some with the bark of a tree and some with a bubble sheet.

I allowed my sculpture to sit for a while and then took a POP mold. Later I cast it in resin

Once that was done, I used duco paint to paint it. I wanted to have the gleam that is brought about only by the gloss of duco.

My choice did not pay off as the paint started to peel off on drying. I put a coat of POP and a layer of base paint before painting it with enamel paints.

PLASTIC WRAP SCULPTURE

Since sculptures are 3 dimensional, it gives a wide variety to experiment with. I intended to test with plastic sheets and cello tape. I collected the following: commercial Cling film, clear packing tape, 1 pair Scissors, tape cutter and a sturdy cutting surface.

(I thought of using duct tape but that would have given a different effect because of color)

I also kept old newspapers to stuff in order to reinforce the sculpture mold. I asked my friend to be the model. Actually, the easiest way to wrap the model is to do it one piece at a time, and later fix the separate pieces together. I started with the left arm, from the wrist to the upper bicep. I then did the right arm, followed by each leg, the torso, the pelvic area, and finally the head (for which I used a drawing mannequin head).



The more layers of tape I used, the sturdier the mold became. Pressed tape firmly against body part to maintain recognizable form.

To remove the mold, I used the tape cutter carefully to cut a slit through the mold to free the wrapped body part.



I tried to minimize the cuts so that it would be easy to join them together.

When I tried to tape them back, it kept slipping so I had to put one hand inside the mold and press up while placing tape.



Once done with that, I stuffed the repaired mold with old newspapers to reinforce. With this I made sure that my mold would not collapse.

Next, I started to tape separate mold pieces together to complete the human form. While doing this, I was also working on the pose I wanted my human form to be in.



HOLLOW MOLD WITH DENTAL ALGINATE

I tried to use different materials for making realistic sculptures. Thick POP was used, but it cracked before I could pour the material.

I also added a cupful of white cement to the POP mix in order to stop it from cracking. I also contemplated using play-dough but gave up the idea in favor of dental alginate. This is a seaweed-based product used by dentists to take impressions of teeth and gums in order to make dentures or retainers.

The material itself came in a powdered form. To use it, I mixed it with water and it turned into a semi-liquid form. After a few minutes, it hardened into a rubbery solid. In order to make a copy of a hand, I mix up a batch of alginate in a bucket big enough to give at least half an inch of clearance all the way around the hand. Then I stick my hand into the bucket, wiggle it around to work the bubbles away from my skin, and waited until the alginate solidified.



Once the alginate solidified, I gently removed the hand by wiggling and twisting and pulling until I broke the vacuum to slide out.

The one drawback to alginate is that, once it cures, it will shrink as the moisture dries out of it. So it's important to pour the casting as soon as possible. In this case I used black casting resin:



Once I was sure the resin had solidified, I tore through the alginate and retrieved the sculpture. It had remnants of the alginate that had to be carefully removed.



PROGRESS REPORT 3

INTENT:

Before we started the next chapter of our study, we tried to steady and recalibrate our earlier drawbacks. We made relevant changes to rectify the defects.

Our intention next was to use unusual material like dental alginate and plastic wrap. We started this experiment with a lot of trepidation.

TESTS & TRIALS:

So far, I had been mostly experimenting with ingredients. I had added a novel ingredient to an already tested one; used varied proportions of each to test the tensile nature of the cast and its durability in some cases.

Some new experiments worked which I shared with my colleagues at Triveni Kala Sangam. To take my experimentation to the next level, I decided use unusual material like plastic wrap, dental alginate etc.

But first I tried changing the time tested armature sculptures by altering the weight and volume ratio.

During this period, I also planned to work with plastic wraps. This was very exciting as sculptors around me were working with time-tested material and I was on the verge of discovering something astounding or a total failure.

I also used the dental alginate to create 4 dimensional sculpture.

CONCLUSION:

The plastic wrap sculpture was tedious but gave great joy to see the finished product. Some parts were still sagging despite the best quality tape but the top layer paint concealed the defects.

PROGRESS

It is a fortunate opportunity to be able to experiment with lesser used material. Sometimes materials and techniques are so close home that we fail to observe or appreciate. The paper lanterns are a clear example of how paper can be manipulated for creating different shapes.

I bought numerous sheets of sturdy paper, glue, tools, gloves and a mask. I cut the paper into shapes and fixed with adhesive. Between sheets of archival paper, I started to insert thermacol sheets to give it volume. Since there was difference in the strength of the two, the cutter blade refused to work smoothly. The shredding of the thermacol balls was making it more difficult to continue. As much as I used pressure to cut the paper, thermacol would crumble. The shape that I had visualized refused to take place. I thought of discarding the experiment with paper to take up another material.

I gave myself a break for a few days to think up the next best thing. Paper as a medium had ingrained itself in my mind.

Thermacol stacks & Paper

I discarded the thermacol and started working with paper sheets alone. Paper sculptures can fool the eye into believing they are full-form sculptures made from solid, heavy materials, that is, until you get close enough to see that the sculpture consists of nothing more than paper.

Paper sculptures in progress

Sculpting with paper includes various techniques that include folding, cutting, scoring, embossing and curling. I started by getting acid free paper and a cutting stylus with

interchangeable pointed, rounded and tipped razor blades that fit into the tool's end.

Razor blade with tips

I used scissors also, but the razor-bladed tool offers more control when making intricate snowflake-like cuts. After coming up with an overall design, which included a series of layers to create dimension in the sculpture, smaller pieces were cut, wet and molded to specific shapes, and then glued in place with acid-free glue.



Working with paper made me realize the natural strengths and weaknesses of paper. After a while of testing, failing and testing succeeding, I went on to create a 3 dimensional lamp, as a precursor to a bust that I eventually wanted to make. I started by stacking up paper sheets using the acid-free glue.



The paper was proving to be quite malleable and responding well to cutting and folding. But the shape was not sturdy by itself, so I used an armature to hold it in place. To test its utility, I used a worn out lamp stand from my study.



I wanted paper to be the medium of the final product but I still needed to work in clay for the maquette.

So I did a bust in clay for measuring the perspective and once that was done, I started to stack paper according to the size of the clay sample. As I studied paper sculptures, I understood that if I wanted moving sculptures, I had to use a special gluing technique. I prepared a plate with clear strips for the glue. So only the areas exposed on the plate were glued. I shifted the plate by an inch every time I stacked the next sheet. So there were systematic glued and non-glued areas. The idea was that if I lifted the stack, the non-glued areas would rise, giving the sculpture the movement.

Initially, it was just a pile of stack of sturdy paper. One could just make out the protruding nose. I changed the tip of my razor blade to the rounded tip and started to slowly work on etching the eyes. The problem was that the areas with glue on had hardened and the areas where there was no glue were softer which meant I could not use the same tool for the softer and harder areas. It resulted in a bit scrappy gorges. I left that to be worked on later.

The nose seemed relatively easy. The paper had been stacked in a way that made carving easy. For shaping the nose, I used the regular blade. I also tried using the kitchen peeler, which ruined the clear shape that was coming up. It just proved that there were no short cuts.

Similarly, I worked with the ears. I intentionally did not go into details. I let the whole sculpture dry for a few days. Then I took small strips of sand paper to smoothen the surface. I decided

the areas that I wanted to do each day as a rush job at this stage would decide the effectiveness of my work. The cheeks and the forehead started to shape up. It was looking good to me.

The challenge now was to lift the forehead and see if the rest of the face would lift, lifting each stacked up sheet that had been glued in organized places. After a bit of prodding with a blunt knife the sheets began to separate but as I lifted the head, I feared damage to the sculpture.

At this point, I left the sculpture as it was and experimented with just stacking sheets and lifting them. It was like a honeycomb, like the Diwali paper lanterns that are folded but effortlessly lift as you raise them.

Thereafter I came back to the sculpture, but I guess I should have practiced the pasting technique before modeling the sculpture. I was able to lift the forehead and the sculpture sure moved, but when pushing it back in place, it refused to set in smoothly. This did not come up to what I had in mind.



Im putting in my last progress report, not having succeeded in this experiment but, nevertheless, I will see it work, even if it takes more time and effort.

PROGRESS REPORT 4

INTENT:

It is a fortunate opportunity to be able to experiment with lesser used material. Sometimes materials and techniques are so close home that we fail to observe or appreciate. The paper lanterns are a clear example of how paper can be manipulated for creating different shapes.

TEST & TRIALS:

Paper is such a common medium and most of origami arises from here. Craft is incomplete without paper of various kinds and thickness. My intention was to make a sculpture based on the honeycomb technique, like how Diwali lanterns are made

Sculpting with paper includes various techniques that include folding, cutting, scoring, embossing and curling. I started by getting acid free paper and a cutting stylus with interchangeable pointed, rounded and tipped razor blades that fit into the tool's end.

CONCLUSION:

This was a very tricky experiment. I wasn't expecting good results because I did not fully understand the technicalities before I began the work. Since it was a medium that we had not used to its optimum, it was fascinating. The result wasn't stupendous, but we had the courage to try something that was not easy.

