

Shilparas

~SHILP means 'Craft' || ARAS is derived from 'Banaras'~

Metal Repoussé



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Chapter-1

WHAT IS METAL REPOUSSE?

- Repoussé is a metal-shaping method in which a ductile metal is moulded by hitting it with a hammer from the alternate side to generate a design in low relief.
- Name Derivation
The word repoussé is derived from the French word, pousser that means “to push forward.”
- Techniques
Repousse techniques are prehistoric. They have been widely used all over the globe, since they require easily available tools and materials. They are also comparatively inexpensive, since there is no misspend/decay of metal.
- Material
Metals used for repoussé labor consist of copper, gold, silver, and alloys such as steel, bronze, and pewter.
- Examples
A couple of examples of repoussé include the mask on the of Tutankhamun, the body armours of the Bronze Age and the Statue of Liberty in New York City.



Chapter- 2 | Part (i)

ORIGINS OF METAL REPOUSSE

- The methods of the craft age from bygone eras, thus are extensively made with silver and gold for minute and precise production and using bronze(CuSn), copper(Cu) and tin(W) for bigger cultural models.
- The initial nonprecious metal to be explored was copper.
- But in the 4th millennium BC, Eastern workers exposed that copper alloys using tin or zinc were more lasting and simpler to engage with, with the conclusion that from then on the use of pure copper dismissed.
- The skilled workers engaged in the West also identified this, and that is why pure copper is unique and scarce.

Chapter- 2 | Part (ii) World History



IMG (2.2) Chased Disc



IMG (2.3) Chased Shrine



IMG (2.4) & (2.5) Chalices



Copper Chalice
IMG (2.6)



IMG (2.7) Copper Gilt
Implements

EUROPEAN PREHISTORY AND BRONZE AGE

- Throughout the 3rd millennium BC, several semi-mass manufacturing techniques were made known to prevent monotonous free-hand work. With the easiest method, gold sheet layer could be urged into designs chiseled in intaglio in metal, stone and bone or even elements like jet. The gold could be worked into the layouts with wooden tools or by using a hammer on wax or lead.
- The substitute to pushing gold sheet into a die is to build it over a design. The use of designed punches/pokes/drills ages back to the first half of the 2nd millennium BC. The easiest patterned punches were formed by coils or rolls of wire.

MIDDLE AGE EUROPE

- These were the first well-drafted copper products to endure in the West age. Who built these isn't known, but one can suspect that in the initial Middle Ages they were primarily the task of monks. Certainly, the primitive copper and copper-gilt products are solely ritualistic instruments.

1. 8th and 9th Century

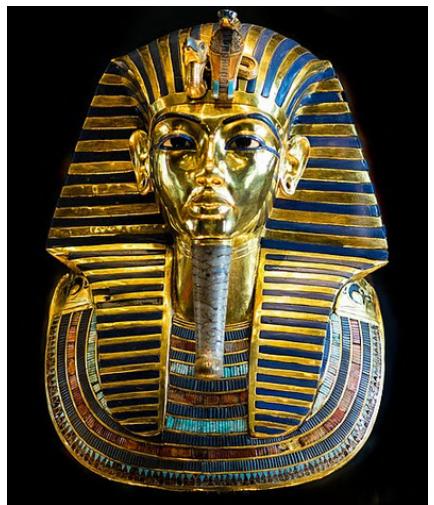
Laws made by the church committee banned the usage of copper and bronze for sanctified chalices, but in fact some copper-gilt chalices like the “Tassilo Chalice” have sustained. The consideration and mastery with which they were made and their lavishly inscribed and niello beautification display that they were cherished as immensely as shrine vessels built of treasured metals.

2. 12th Century and So On

Especially in the 13th and 14th centuries, copper-gilt chalices were comparatively prevalent, notably in Italy, where they were basically mass-produced. Sanctuaries, mobile altars, shrines, and processional crosses are also regularly built of luxurious copper and are commonly accessorized with enamel, niello work, or inscribing or are fit with treasured stones. Few ritualistic instruments were also built in copper gilt, as well as in bronze and silver.



IMG (2.8) Mask of Museo Del Oro



IMG (2.9) Mask of Tutankhamun



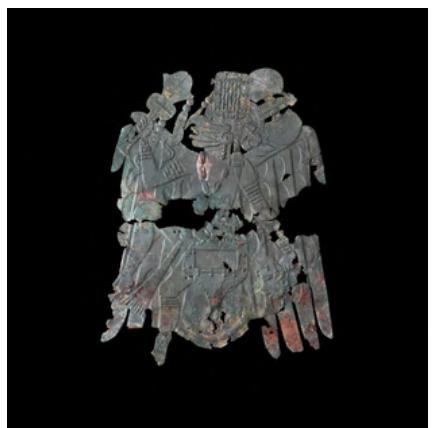
IMG (2.10) Greek Ripped Corselet



IMG (2.11) Archaic Bell Corselet



IMG (2.12) Bi-lobed arrow motif headdresses and falcon dancer plaques



IMG (2.13) Braden Style

ANCIENT EGYPT

Around 1400 B.C., the cohesive substance and clay support was in usage.

A sample of Egyptian repoussé is the mummy mask of Tutankhamun, a Pharaoh of the late 18th empire. A bulk apropos of visor was made with the mentioned craft from what seems to be an individual layer of gold(Au).

From whatever origin Egypt may have accessed its metalworking techniques, Egyptian work at an isolated span had a brilliance that, in few aspects, has never been outmatched. All over Egyptian antiquity, the same artisans who worked in the precious metals worked also in bronze and copper.

CLASSICAL ANTIQUITY

The methods of repoussé age from Antiquity and have been worked extensively with silver and gold for minute and precise performance and with bronze, copper and tin for bigger sculptures. Amidst the most acclaimed classical samples applying this method are the bronze Greek armor plates from the 3rd century BC.

By Classical/Hellenistic age, joined punches and dies were being exercised. In 400 BC, Beeswax was being used for packing in Greece.

PRE-COLUMBIAN AMERICA

Repousse was used by several Pre-Columbian civilizations in America to produce accessories of gold and other metals.

Merchandise of crafted copperware were used like custom royalty & ultimately utilized during dignified funerals. Samples were discovered like the Bi-Lobed-Arrow emblem head gear & falcon dancer plaques. These were spotted within a broadly dispersed region, many are enlisted in what is called Braden Style.

Examples



IMG (2.14)



IMG (2.15)



IMG (2.16)



IMG (2.17)

MASK OF TUTANKHAMUN

The mask is one of the finest-known work of genius on the planet and a distinguished sign of prehistoric Egypt. It is 1.8 ft tall and over 10 kilograms and is accessorized with semi-precious stones.

GUNDESTRUP CAULDRON

The Gundestrup cauldron has been a lavishly embellished Silver(Ag) Bowl, assumed to be dated around Two Hundred B.C. and Three Hundred A.D.

The cauldron is the biggest sample of European Iron Age silver work. It is now on display in the National Museum of Denmark in Copenhagen.

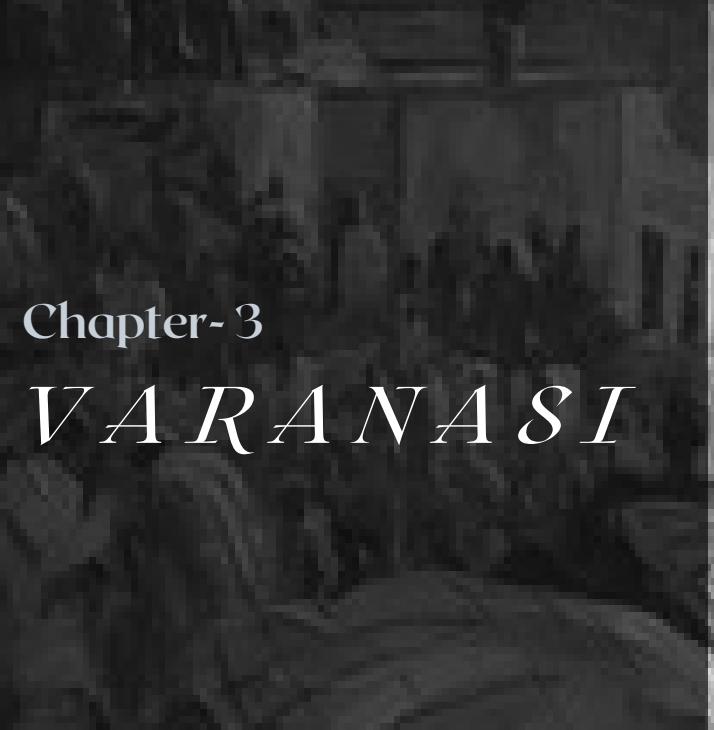
BODY ARMOR

Body armor, personal armor/armour, or a suit/coat of armour, is a shielding attire planned to soak or divert corporal strikes.

Traditionally used to shield armed workforce, today it is also used by several types of cops , private security guards or bodyguards, and occasionally simple civilians.

THE STATUE OF LIBERTY

The Statue of Liberty is erected at a spot in Liberty Island NY City, in the United States. The copper(Cu) sculpture, was gifted from French people living in the US. it was delineated by a Carver from France residing in US & its substructure was crafted by Gustave Eiffel. This sculpture was allocated on 28th of Oct., Eighteen Eighty Six.



Chapter-3
VARANASI





Varanasi

Varanasi, one of the holiest and oldest Cities of India, is unrivalled for, its sanctity as a place of pilgrimage. It is situated in the Eastern part of Uttar Pradesh on the Banks of River Ganga

The origin of brass and copperware industry in India is not exactly known but its antiquity stands established by specimens of old brass and copper images and artifacts which have been excavated at almost every archaeological site throughout the country. The small bronze statue of a dancing girl recovered during the excavations at Mohenjo-Daro is believed to have been cast in the later centuries of the third millennium B. C.

Besides this, puja articles and statues of Indian gods and goddesses made of brass and copper are also utilised for religious purposes. The art wares cater to the aesthetic taste of man. It also plays an important role in the national economy because it provides employment to some workers, adds to the national income and is a source of earning foreign exchange.

Crafts in Varanasi

BANARASI SAREE



IMG (3.2)

Banarasi Sarees are woven silk and zari are used to make designs. The design elements like floral motifs, such a belt has been taken from Mughal style.

STONE JALI WORK



IMG (3.3)

Delicately chiseled and decorated with inlay work these carved jalis . In Varanasi the jali craft work is found on ancient monuments, zamindari homes, forts and places of worship.

GULABI MEENAKARI



IMG (3.4)

Meenakari is a technique of beautifying a metal exterior by putting in mineral on it. Products like jewellery , utensils like boxes, cups and statues of god are made.

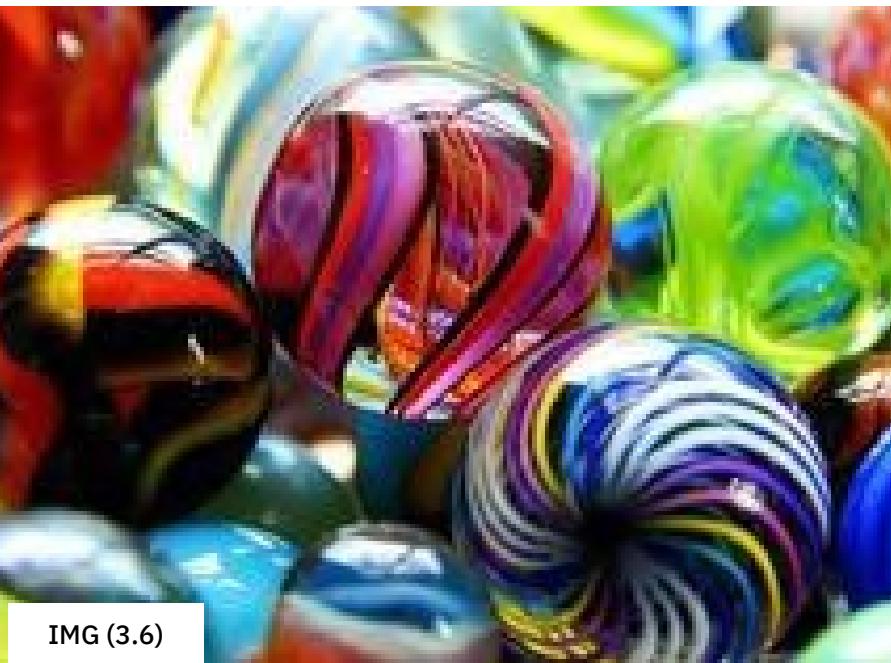
Crafts in Varanasi

WOODEN LACQUERWARE & TOYS



Varanasi and Mirzapur are known for their wooden toys. Designs are made from natural wood. There is no wooden joints in the toys. It is colourful and child-safe.

GLASS BEADS



Various kind of beads are used in items like jewellery ,curtains, fabric items, accessory items, clothing accessories, bags. Some products like neck pieces, earrings, and bracelets are made from multi coloured glass beads.

METAL REPOUSSE



Metal repousse is done by giving shape with the help of hammer to the metal. We hammer from the opposite side with a raised design being formed in the front. This technique is referred to as embossing or chasing. This is completely handmade using traditional tools.



HISTORY OF METAL REPOUSSE CRAFT IN VARANASI

The metal repoussé craft is one of the oldest craft of India . Metal repousse was found since the Vedic times. The artisans use the repoussé technique to make statues of gods and goddesses, , doors ,wall decorations in Temples, utensils and traditional jewellery like necklace, earing etc. Materials like brass, zinc, copper, silver, aluminium, gold were used to make these products.

Kashi Vishwanath Temple is a example of metal repousse in Varanasi. Researcher has discovered that art of metal repousse was found in Vedic times as well as in the Ramayana and Mahabharat period. Metal figures have been discovered at archaeological sites of Harappa and Mohenjo-daro.





ILLUSTRATION OF VARANASI GHAT

EVOLUTION OF METAL REPOUSSE IN VARANASI

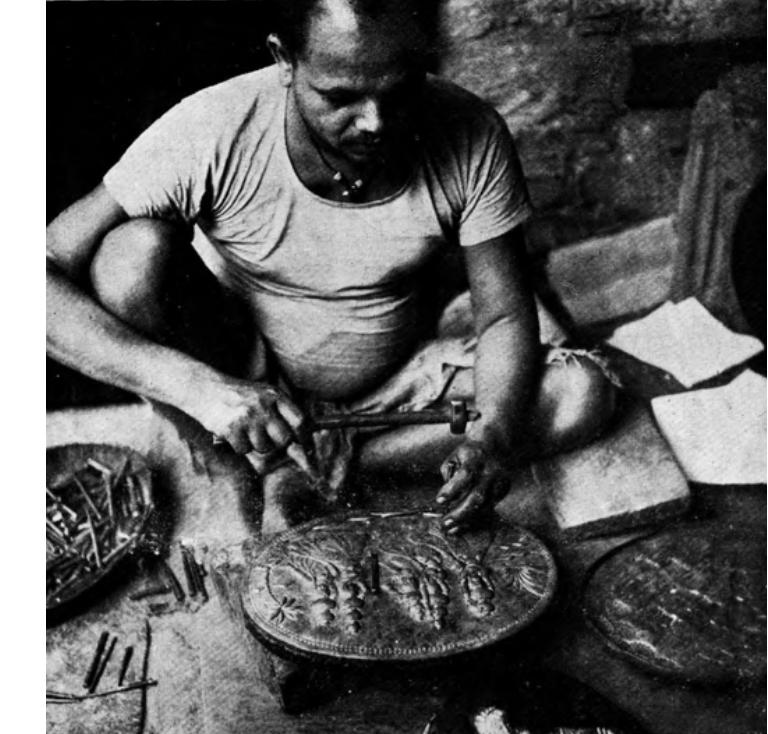
IMAGES OF METAL WORK IN 1961 IN VARANASI



The copper plaque is affixed in an inverted position in a warmed bed of *ral* that has been heated over a fire for about an hour and then laid on a wood plate. The craftsman is elaborating the design with a blunt-nosed chisel.

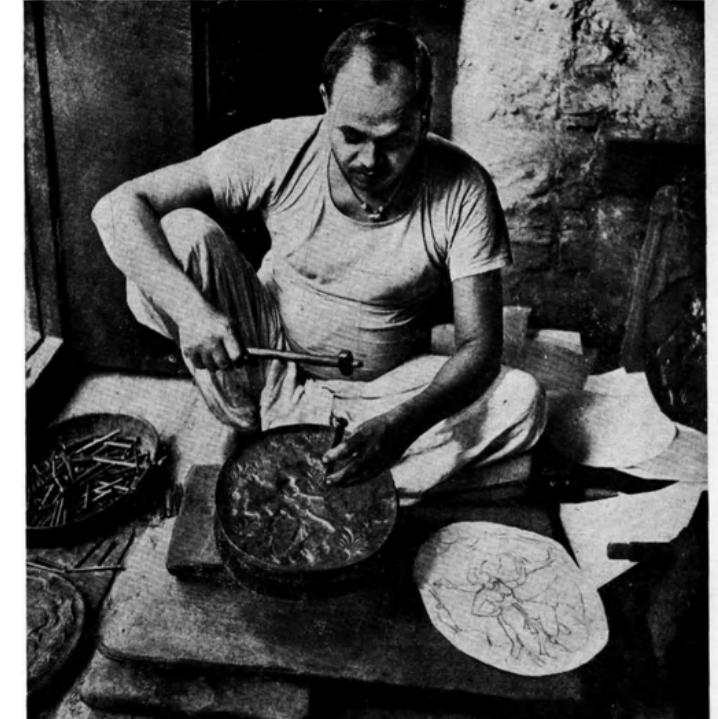


The copper plaque is placed on a wood stand (*hia* or *kunda*) having a big depression and then hammered with a wooden hammer called *moongri* for making a depression in the ware.



A Highly Skilled Craftsman doing Repousse' Work
—Photo by courtesy, B. C. Industries

The plaque shown in the previous picture has been turned up. The process of repousséing on the front side is called 'chasing' which brings into relief the idea or scene to be depicted. Another plaque which is to be 'chased' is kept on the left side of the craftsman. The process requires a high skill and concentration.



A Highly Skilled Craftsman doing Repousse' Work
—Photo by courtesy, B. C. Industries

The craftsman first outlines the figure on a sheet of paper. The outline figure on white paper is placed on his left side. The outline of the design is marked on the surface of the metal sheet with a pointed steel needle. The sheet is fixed on a pitch block, visible below the copper sheet. Repoussé work is being done from the back. The numerous tools kept in the steel casket are punches and tracers, locally called *tilla*, *lorthati*, *bulle*, etc., which are prepared locally.

IMG (4.2)

IMG (4.3)

IMG (4.4)

IMG (4.5)

METAL REPOUSSE CRAFT IN OTHER PARTS OF INDIA



IMG (4.6)

Metal Embossing of Rajasthan

Metal is sand casted and the other work are done by skilled workers. The dhaliyas or the artisans make and join the parts. While the sheet metal specialists and engravers work on the embellishment and design work. The creation of the final physical product takes 28- 42 days to be completed. Etching and pen work is called Kalamkari in Urdu, hammered by chisels. Shallow etching also called naqqashi or sada kalam, and deep etching, called khudai or siah kalam.

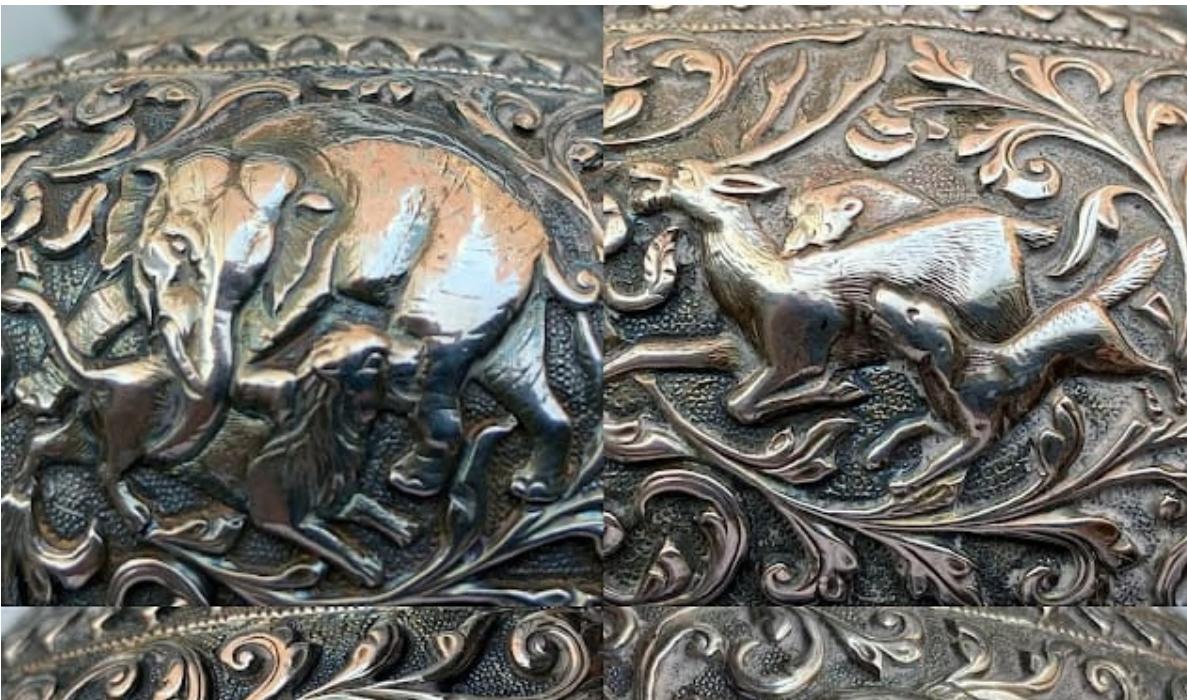


IMG (4.7)

Metal work of Gujarat

Gujarat has been recognized for its metal work from since as chalcolithic age. This metal work includes casting, hammering and forging. Metal articles crafted here have various metal sculptures, statues, decorative items, vases, utensils, ornaments, jewellery and metal furniture, etc. The craft distinguishes itself with its elegant and intricate designs, details, and finishing.

METAL REPOUSSE CRAFT IN OTHER PARTS OF INDIA



IMG (4.8)

Metal Repousse Moradabad:

Inspired from the Islamic culture, the elegant art of Moradabad metal engraving has now gained great reputation in the contemporary markets. The variance in colours and textures of metals has led to the evolution of metal adornment through techniques inlay, overlay, applique, fixing of colours etc. Wide variety of industrial products including enamelled jewellery, utensils such as bowls, box etc are made.



IMG (4.9)

Metal Work of Maharashtra:

This old craft of Maharashtra is performed in Ambernath, Kalyan, Thana and Nasik. The metal craft here is increased from their socio- cultural custom and traditions such as presenting brass and bell metal articles to the bride and the 'Chalanti Pratima' of presiding brass deities. The artisans produce products based on the motifs of kings, individual heads, 'Manas' or miniature replicas of measures; other products include containers with lids, ashtrays.



TOOLS & TECHNIQUES

TOOLS & TECHNIQUES USED IN MANUFACTURING METAL REPOUSSE PRODUCTS

TOOLS USED

- Hammer
- Divider
- Metal Workpiece
- Lacquer
- Chalk
- Punches
- LPG
- Motif

TECHNIQUE USED

- Drawing
- Marking
- Hammering
- Heating
- Embossing
- Cooling
- Rough Denting
- Polishing



IMG (5.1)

HAMMER



IMG (5.2)

DIVIDER



IMG (5.3)

PUNCHES



IMG (5.4)

LACQUER PASTE & METAL WORK PIECE



IMG (5.5)

CHALK PIECE

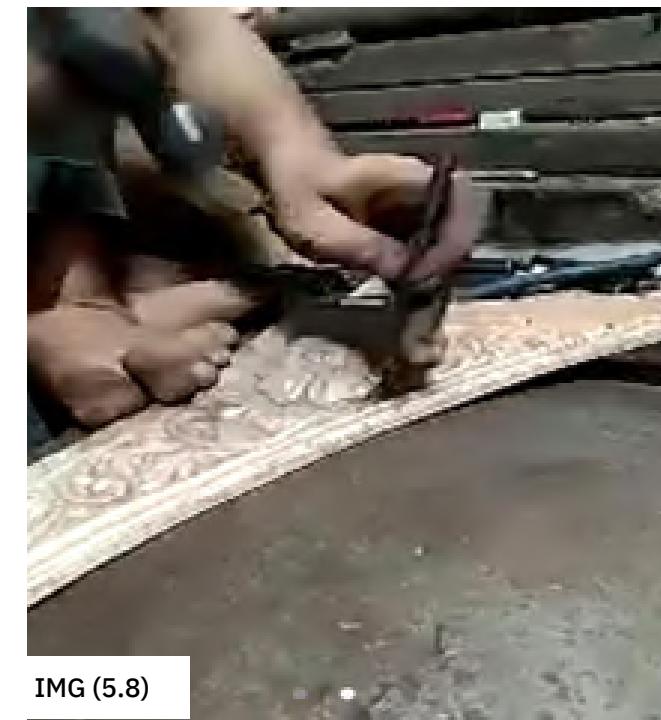


IMG (5.6)

LPG FLAME



IMG (5.7)



IMG (5.8)



IMG (5.9)



IMG (5.10)

Drawing pattern for work

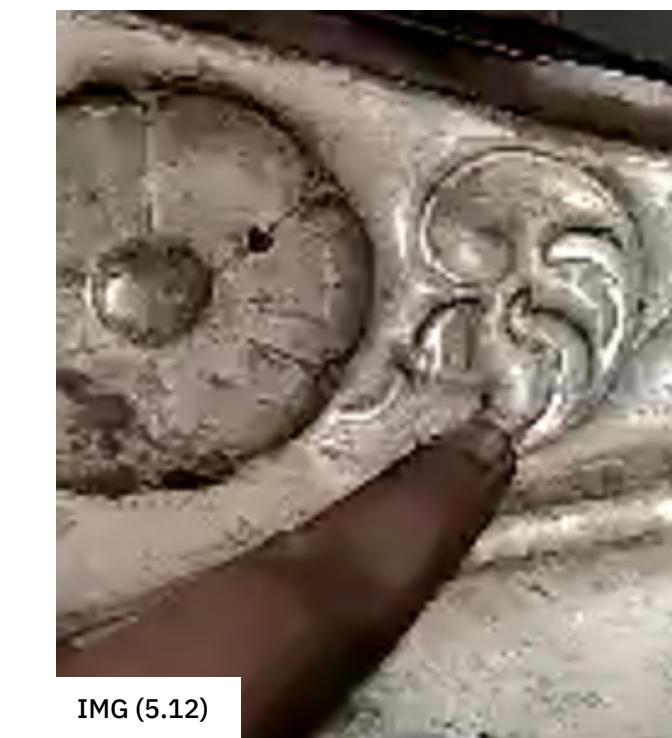
Hammering on work piece to make pattern on it

Marking on work piece

Denting done on work piece



IMG (5.11)



IMG (5.12)

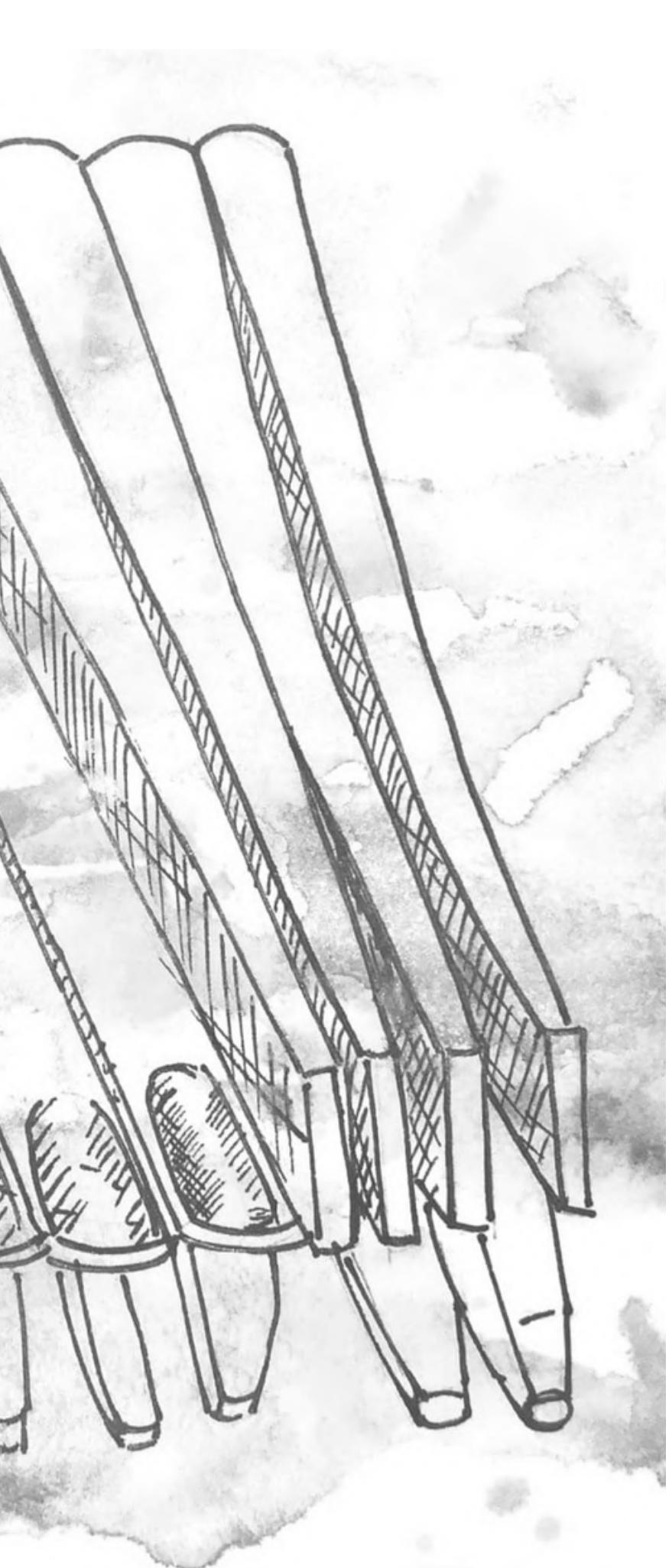


IMG (5.13)

Heating

Embossing

Polishing



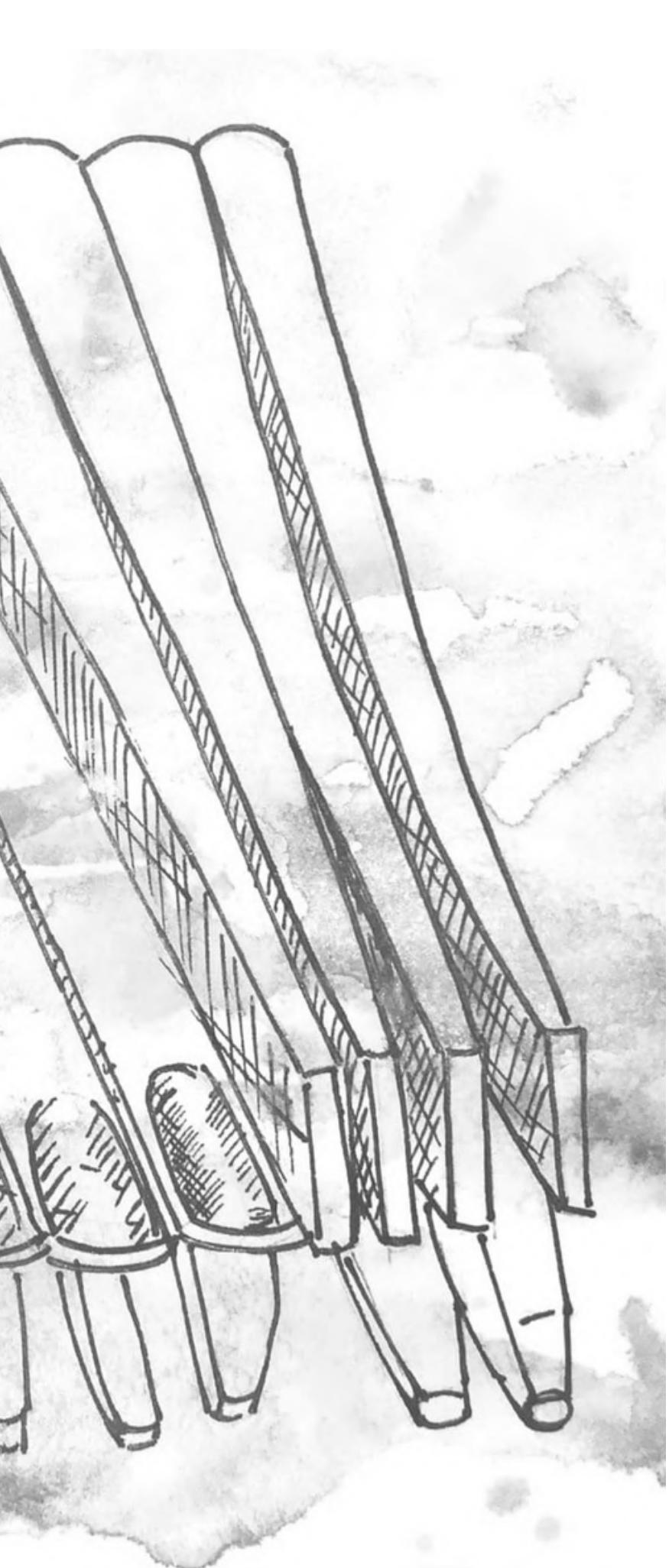
TOOLS USED FOR EMBOSSED



IMG (5.14)

LINERS

Liner tools leaves serrations on the surface of metal in spite of fragmenting past it. These are usually the first tool that are used on work piece. These are basically used to imprint designs on the metal. When it is lined out on our design, the metal is thrusted from the fore –generating a bulk scoring behind it. They are additionally utilized on the fore-side with the aim of trimming from beneath the motif & utilized for making raised surface. Such curved tools are also utilized – both compact and colossal. Few liner are lengthy and erect for making forthright, continuous markings other so on.



TOOLS USED FOR EMBOSsing



IMG (5.15)

Undercutting Tools / Setting Punches

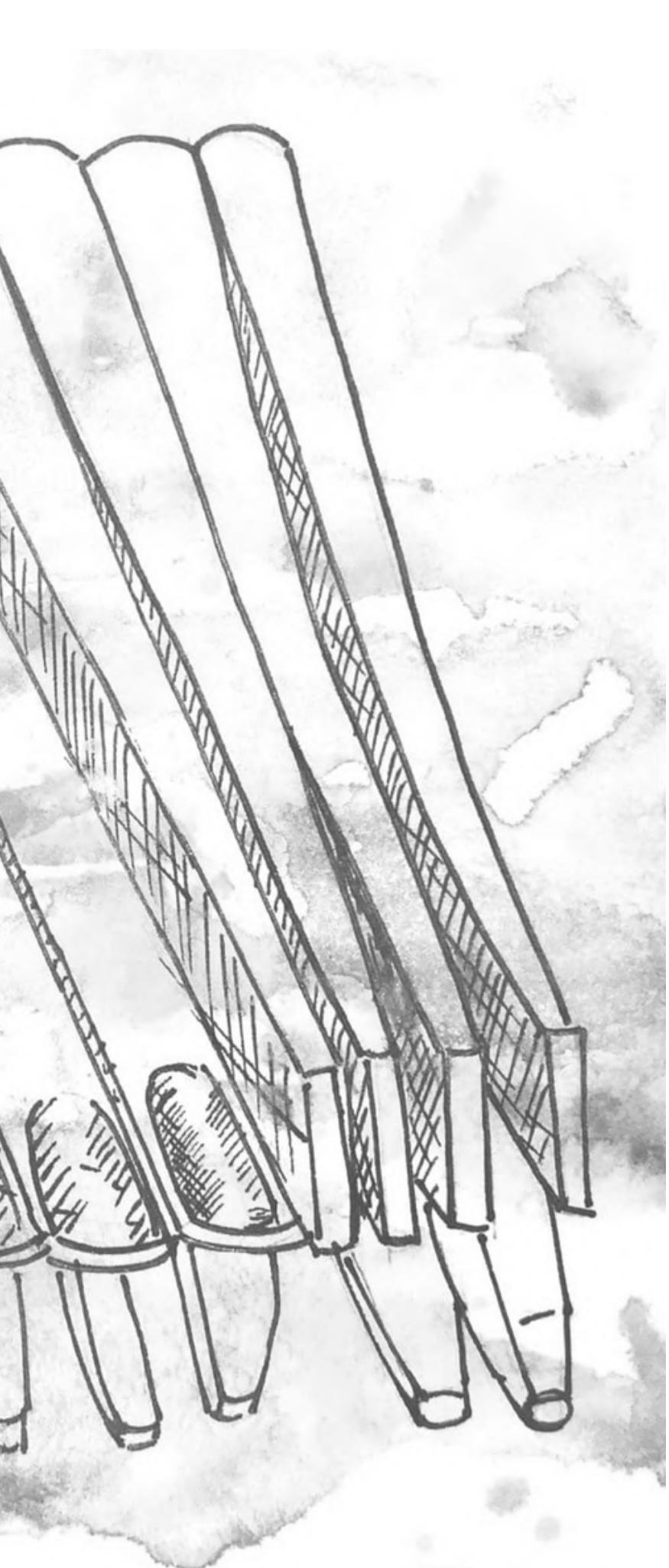
They are utilized to fold, nudge or flatten lower parts of the motif. These tools shove, from the head, brims in and beneath the metal segment producing a mirage of inwardness. It is utilized to elevate a margin & shape a orthogonal panel too.



IMG (5.16)

Running Punches

It is a lining tool although it's wider & does have a further bend border in comparison to the lining tool. This tool forms a mark alike the lining tool nevertheless broader and extra curved.



TOOLS USED FOR EMBOSsing



LACQUER

Lacquer is used in making different products, such as producing playthings, wax, armlets, etc. Jewellers & goldsmiths use this as a fill-up substance to fill the cavities of precious metal embellishments. In metal repoussé, basically it is used to stick work piece so that artisan can work on it without displacing the sheet. Lacquer is made up by mixing resin, geru and mustard oil. Lacquer is heated first to get a sticky layer on it then metal sheet it applied for further work.

NAME OF THE MAIN TOOLS USED BY THE ARTISANS IN HIS LOCAL LANGUAGE



Silla

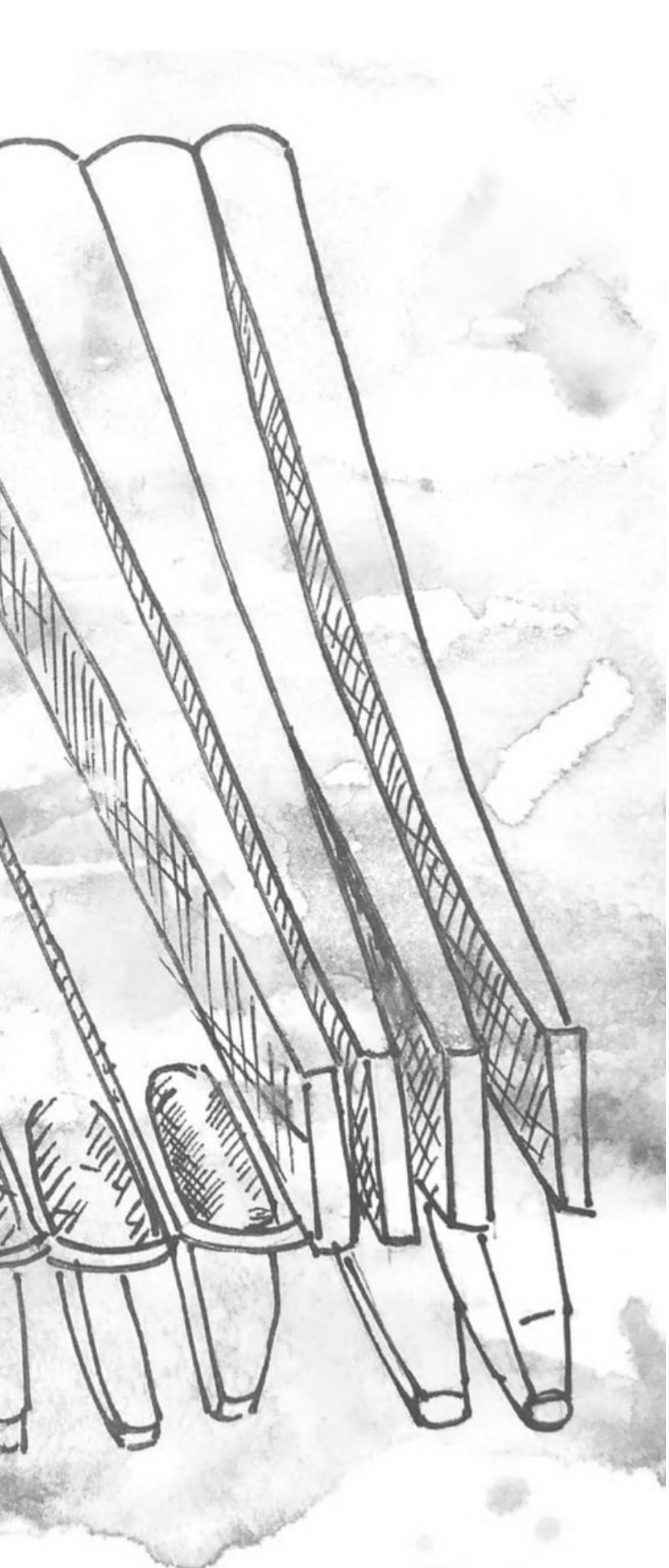


Addha



Paan

- These are the main tools which are used in making patterns and according to the artisans these are the different shapes; forms of the tools like, Silla, Addha and Paan such as Chota Silla, Addha Silla, Chota Paan, etc.



TECHNIQUES USED

Raw materials is usually brought from Delhi; including gold, mercury, pearls, gem stones and copper sheet. Pearls and gem stone are mainly used in the jewelry of Buddha.

- Copper sheet: For making the statue.
- Hammer: Used for shaping the statue.
- Chisel: Used for fine detailing and marking on the copper sheet.
- Steel rod: Used for shaping the copper sheet.
- Gold: Used for shine and luster.
- Mercury: Used in gold- gilding.
- Flame torch: Used as a heating agent.
- Traditional herbs: Used for coloring and for shine in the gold.
- Pearls and gem stones: Used for decorating in jewelry.



IMG (5.21)

Types of hammer



IMG (5.22)

Divider is used for marking on work piece



IMG (5.23)

Punches used for making pattern on work piece



IMG (5.24)

Lacquer is used as a base in work piece



IMG (5.25)

Heating process is used to make the metal malleable.



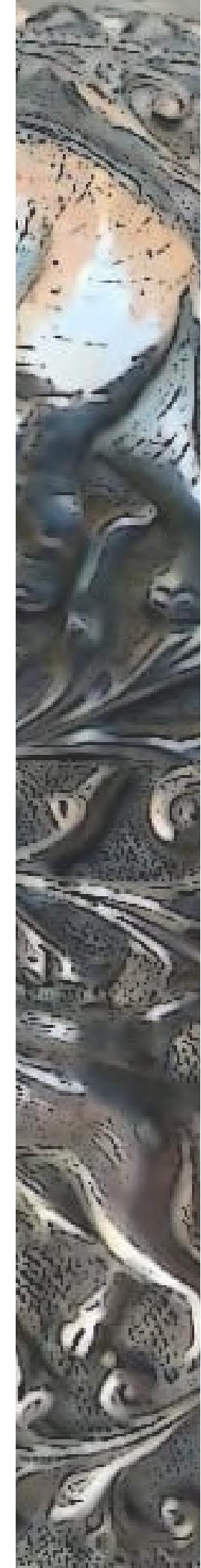
IMG (5.26)

Polishing is done with the acid for clearing the dust particles from the metal sheet.



IMG (5.27)

Making pattern on the work piece.





IMG (5.28)

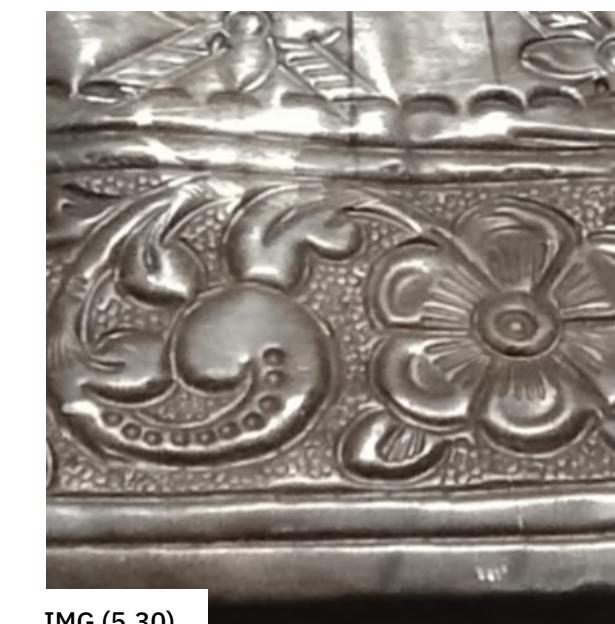
MOTIFS

Metal repousse craft of Varanasi has a unique mixture of technique and skills exhibited by the artisans. This craft makes its own identity and it's other contemporary designs show the excellence and versatility of metal repousse craft. All the designs, patterns & detailings are done by the artisans themselves, even some of the important materials like lacquer, chisels are also made by the artisans. In this craft most of the designs and pattern exhibit traditional motifs of flower, leaves, shikargah and other various types of symbols are also made to adorn the products.



IMG (5.29)

LOCAL NAME OF THE MOTIFS ACCORDING TO THE ARTISANS



IMG (5.30)

Dedh Patti & Ek Patti Phool



IMG (5.31)

Panch Pattia Murli



IMG (5.32)

Chattiya Phool



IMG (5.33)

Pan Pattiya



IMG (5.34)

Shiv Lingam



IMG (5.35)

Kalash



IMG (5.36)

Mukut; Crown



IMG (5.37)

Puja Thaali



IMG (5.38)

Mukut (making-in-process)



IMG (5.39)

Metal Engravings for a Temple's Gate

CULTURAL SIGNIFICANCE OF METAL REPOUSSE IN VARANASI



IMG (5.40)

Prime Minister of India, Narendra Modi visited Kashi Vishwanath temple, Varanasi. The Shivlinga is made using metal repousse technique (in the center).

Varanasi was called as the cultural capital of India. It has Indian heritage, unrefined characteristics, religious places, several belief creeds, statues & antiquity. Primeval craftwork & way of life are constantly protected in Varanasi at several archival galleries.

Metal repousse work is found in Jagannath temple of Puri, Kashi Vishwanath temple in Varanasi, Shani Shingnapur (Maharashtra), Gurudwara of Taran Sahib and Golden Temple of Amritsar.

KASHI VISHWANATH TEMPLE - METAL REPOUSSE WORK



IMG (5.41)

The statue of god and goddess are made of metal repousse.



IMG (5.42)

The dome shaped jhumar for god statue is made by metal repousse



IMG (5.43)

Metal repousse work is done around the Shiva linga.
Metal repousse work can be seen on the snake of the shiv linga.



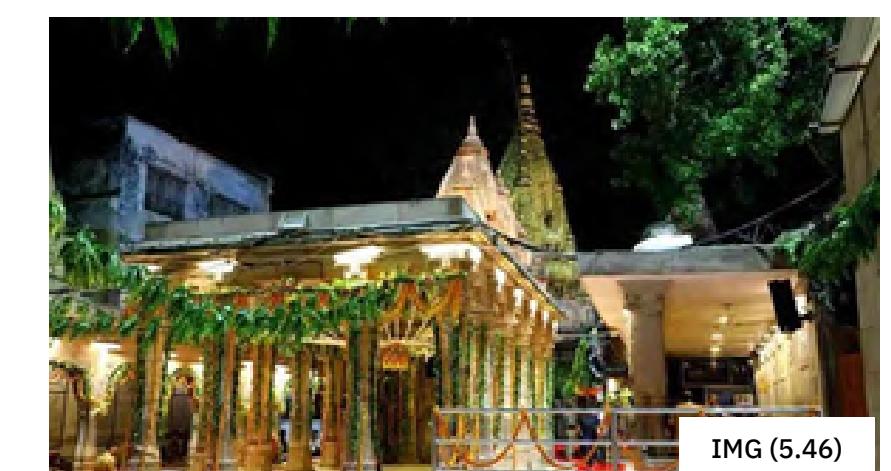
IMG (5.44)

Statue of Shivlinga



IMG (5.45)

The metal repousse work is done on the doors of the temple



IMG (5.46)

Metal repousse work is found on the pillars of the temple.



IMG (5.47)



IMG (5.48)



IMG (5.49)



IMG (5.50)

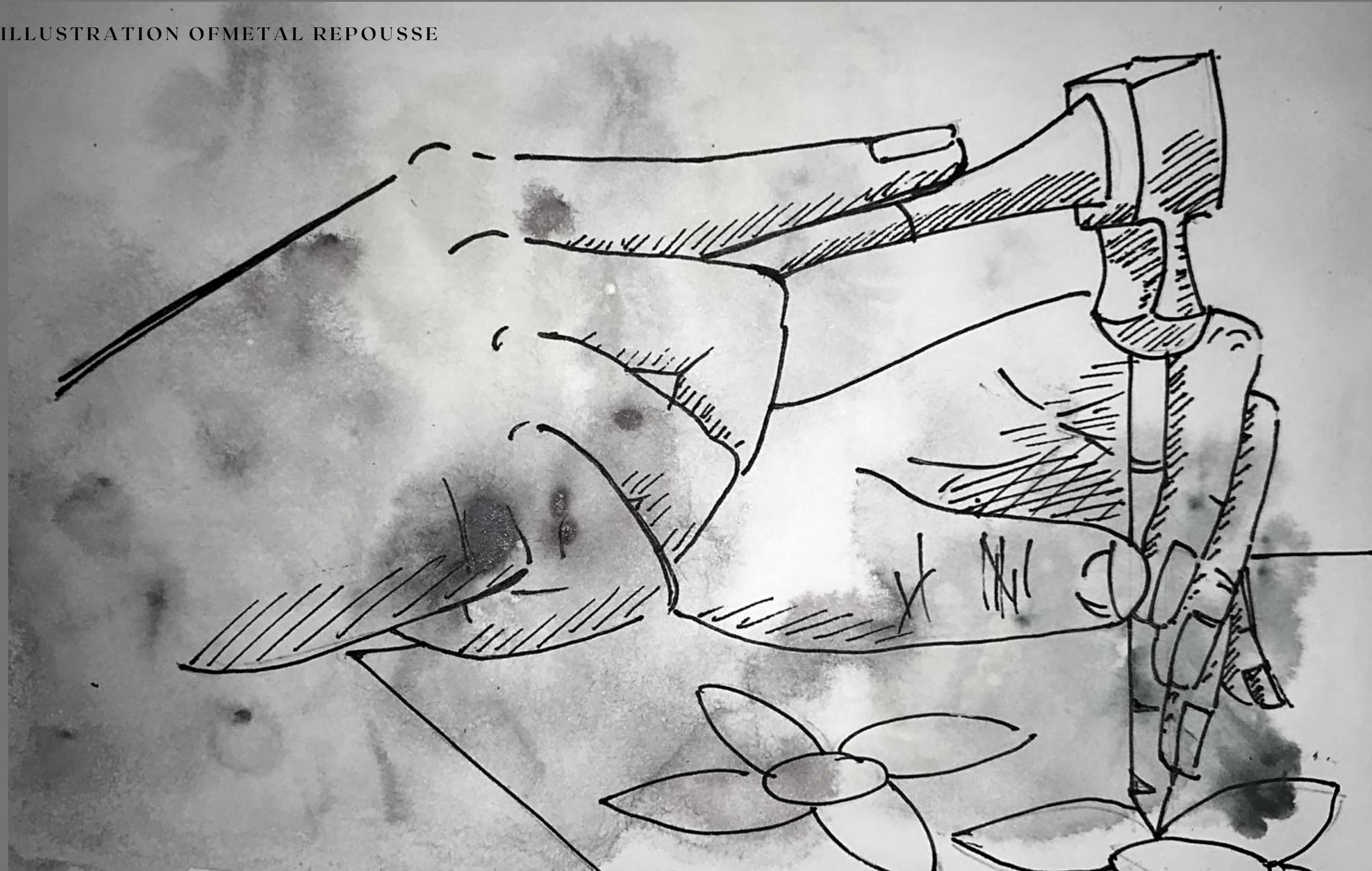


IMG (5.51)

TRADITIONAL & SOCIAL SIGNIFICANCE OF METAL REPOUSSE IN VARANASI

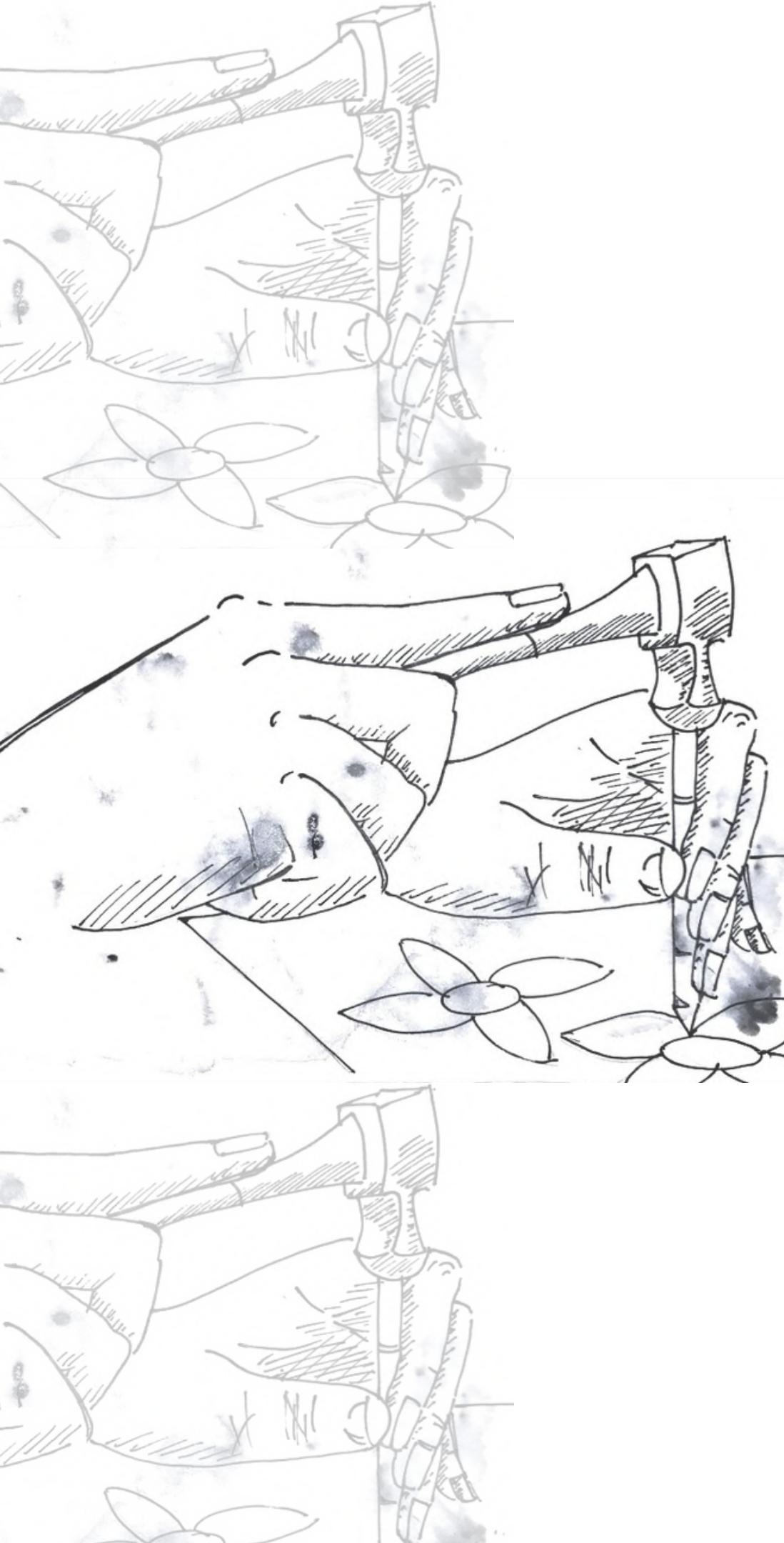
- Varanasi is tuned with nature, God and life. Ganga Aarthi is performed with lamps, flowers, incense and camphor, thanking the river for its blessings and for its protection.
- Designs depicting flowers, animals, gardens, trees are motifs in metal repousse. Enamelled jewellery , appliances like wine-goblets, finger-dish, pellet case are made of gold , silver & other metals. At Varanasi, they manufacture household utensils such as, lota, patili, gilas, batua, baiti, karahi ;puja articles such as gongs, ghanti, kalash, panchpatra, chowki, arti, flower basket, wall decoration plaques, table lamps, flower vases, statues of god and goddess.
- Metal repousse is done by Kasera community of Varanasi. Metal repousse craft is famous for making door and wall decoration of temple , puja articles like lota, kalash and traditional ornaments of metals.

ILLUSTRATION OF METAL REPOUSSE



Chapter- 5 | Part (iii)

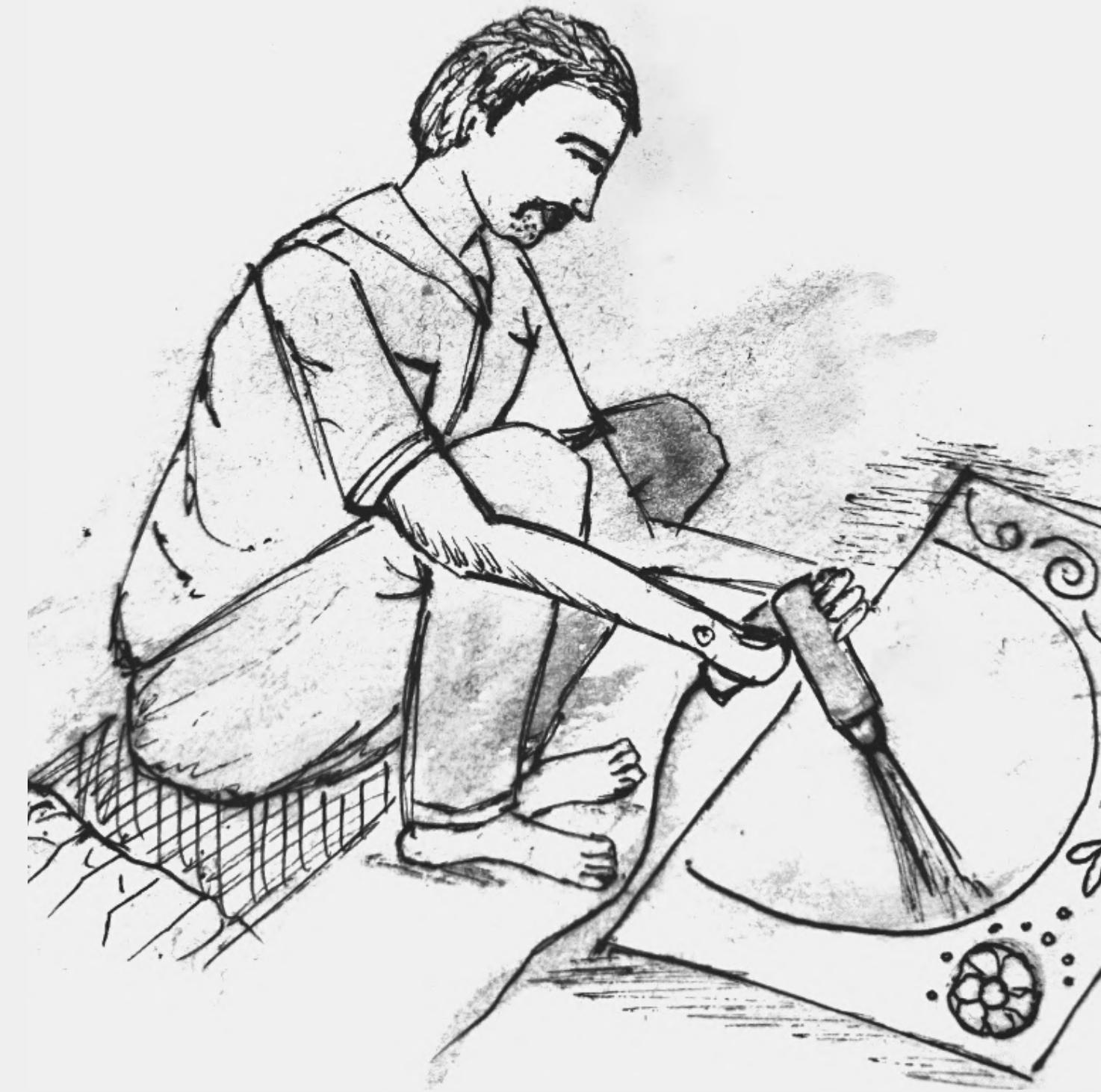
Manufacturing Process

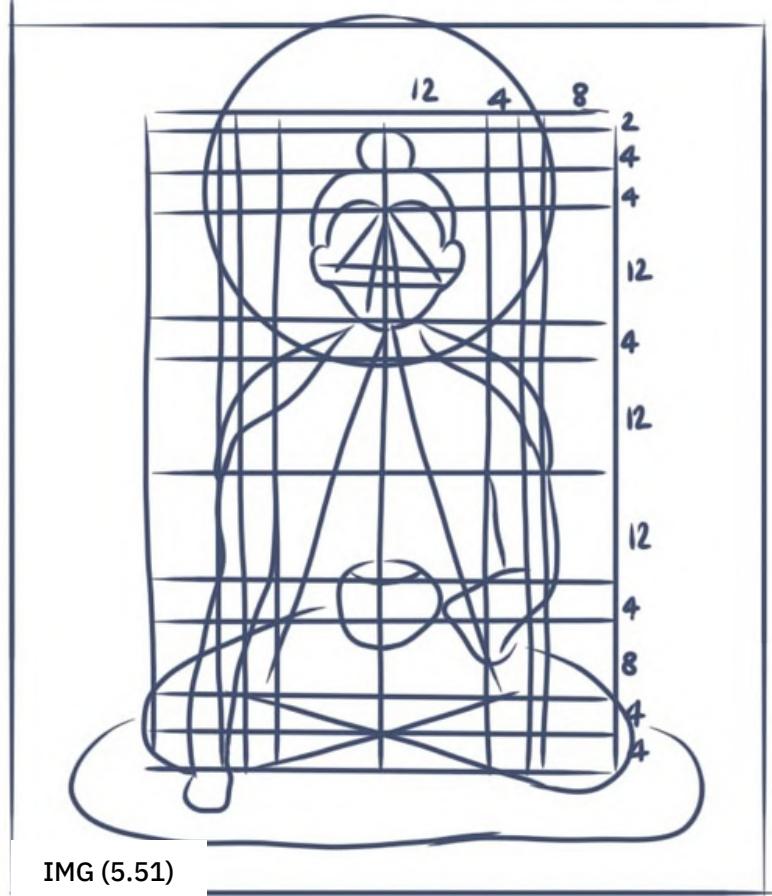


MANUFACTURING PROCESS

- A sketch is drawn by the artisan on a paper, for scoring every segments of design-to-be-made. Then, outline of the drawn proportion is hammered on a metal sheet of a certain gauge measurement, various kinds of incising tools are also utilized in such operations.
- Cool & Warm Incising Tools have always been utilized in this procedure. Cool Incising Tools are mostly utilized to extract surplus; unnecessary lac yet abstains providing even coat. Warm Incising Tool is utilized to incise warm-up and make the metal soft. When surplus lac is taken off, beating with hammer is carried on. Different parts of the sculpture are made separately, which helps in detailing process.
- Simultaneously a blend of pine resin and mustard oil is heated for half an hour to make a viscous blend of sharp viscosity and hydrated iron(III) oxide is put in for tinting. Formed metal plate is then set down on top of the viscous blend. Because of the blend's abrasion, metal peace rests securely above the blend.
- Detailing(s) is embossed on the fixated metal workpiece using various types and sizes of chisels and hammer. After the hammering is done, Lac is removed by re-heating and the workpiece is dipped in or rubbed-off using a cloth piece with dilute acidic solution to remove leftover Lac.
- Then, (in case of different workpieces made individually) combination of brass(Br), Silver(Ag) and Zinc(Zn) is combined in a proportion of 13:7:1. Such combination mix is utilized in various forms for heat-fastening purpose & attaching various segments. This composition liquifies quicker compared to copper(Cu) & has moderate liquefaction point in comparison to copper(Cu).
- Lastly, all the parts are polished and embellished using pearls and gemstones (which is optional and depends on the liking of the customer)

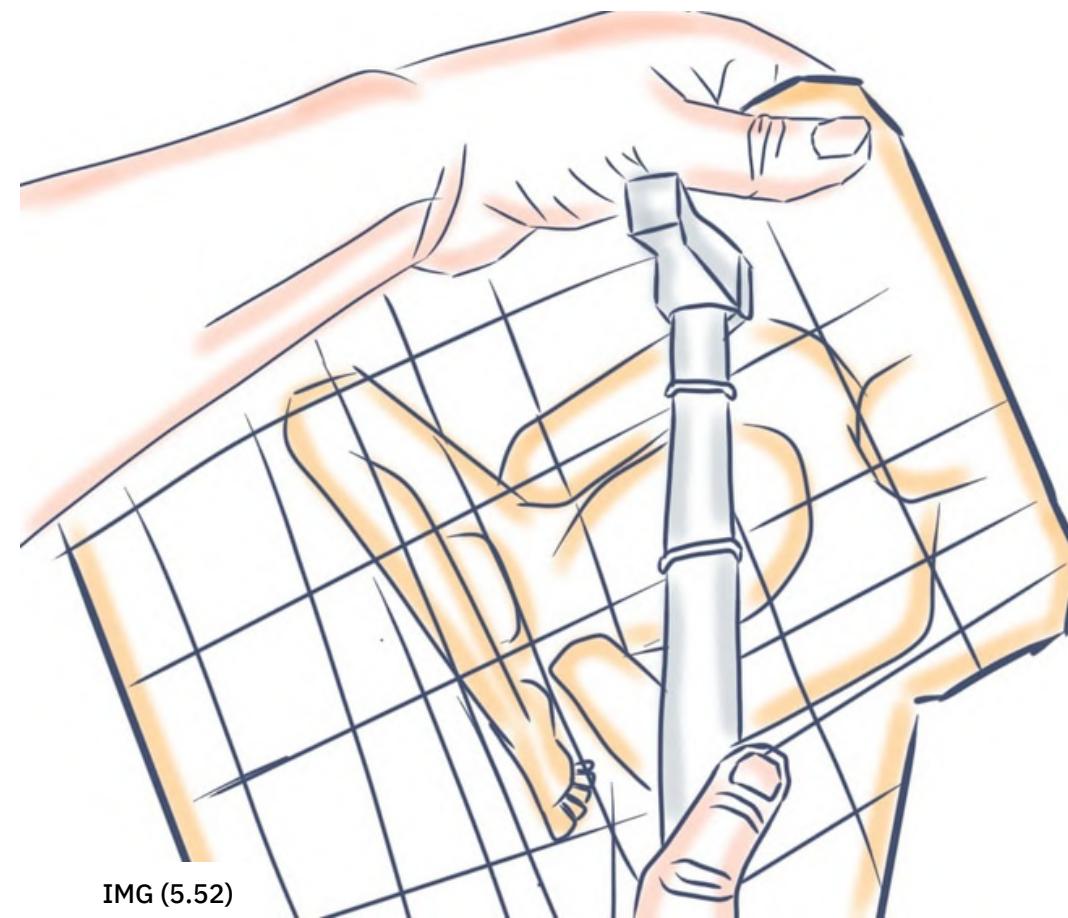






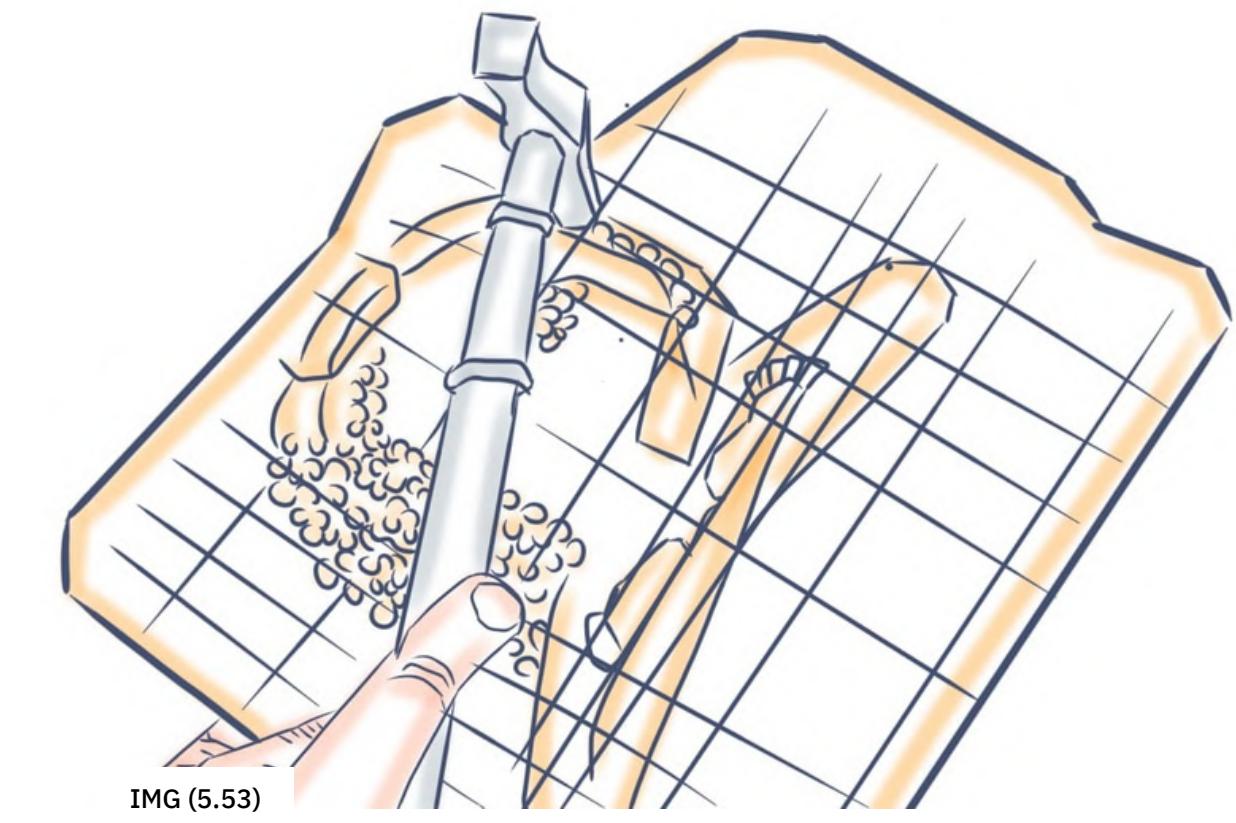
IMG (5.51)

Sketch of sculpture on a sheet



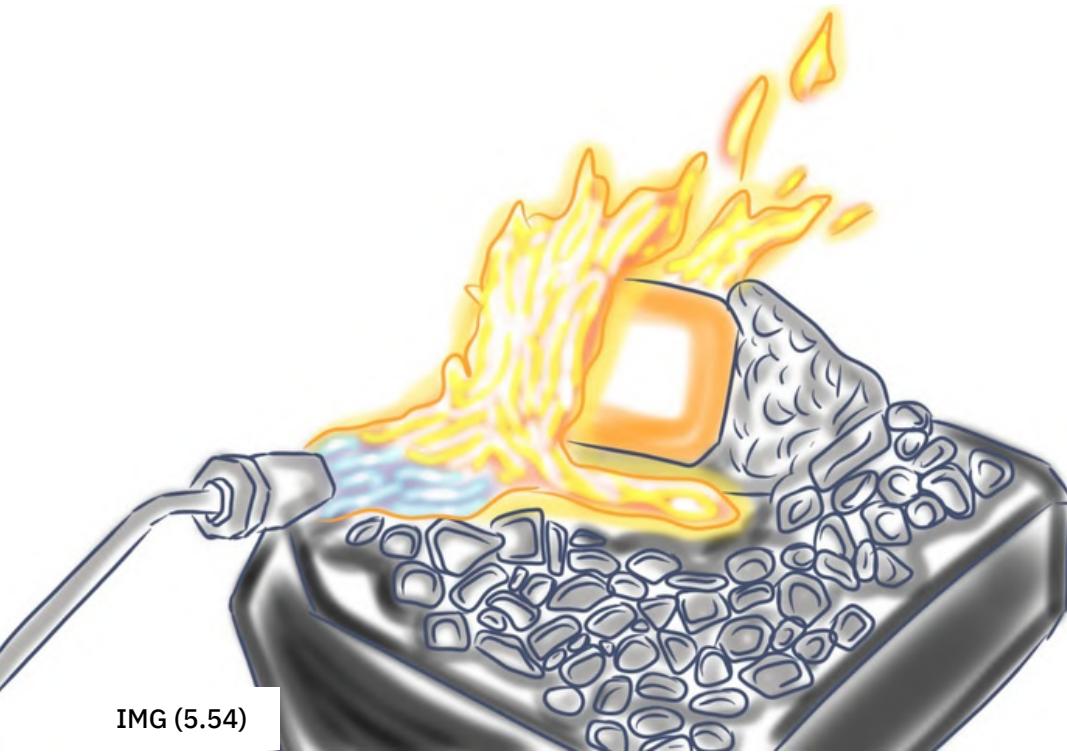
IMG (5.52)

Outline of the drawn proportion is hammered on a metal sheet



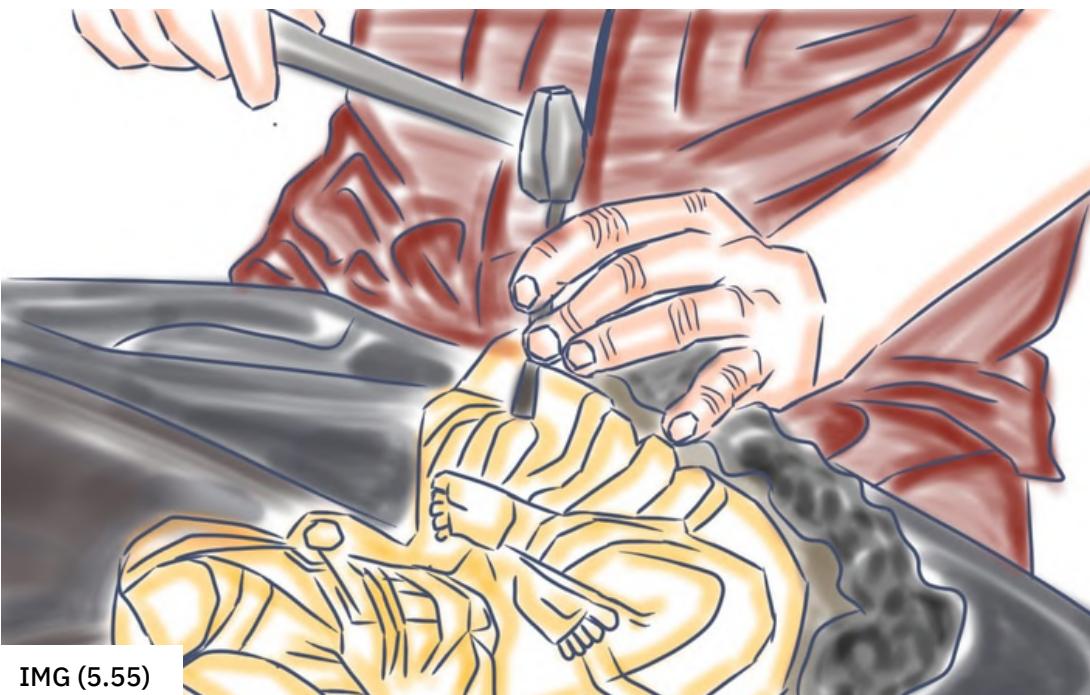
IMG (5.53)

Hammering to get a basic shape of work piece



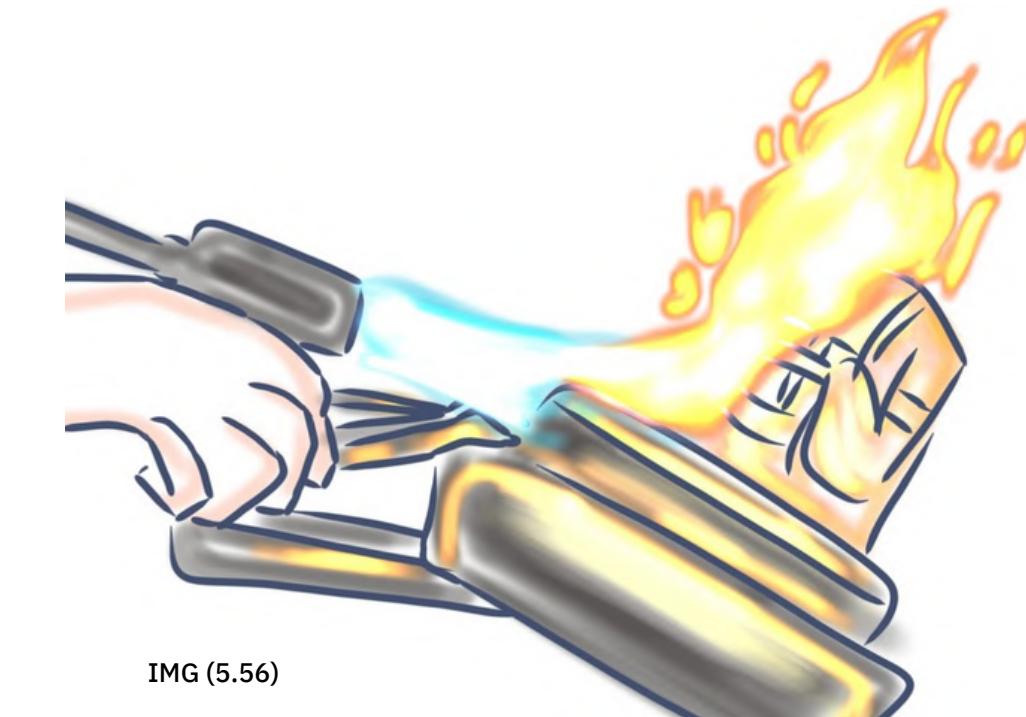
IMG (5.54)

Workpiece is heated with a Flame Torch



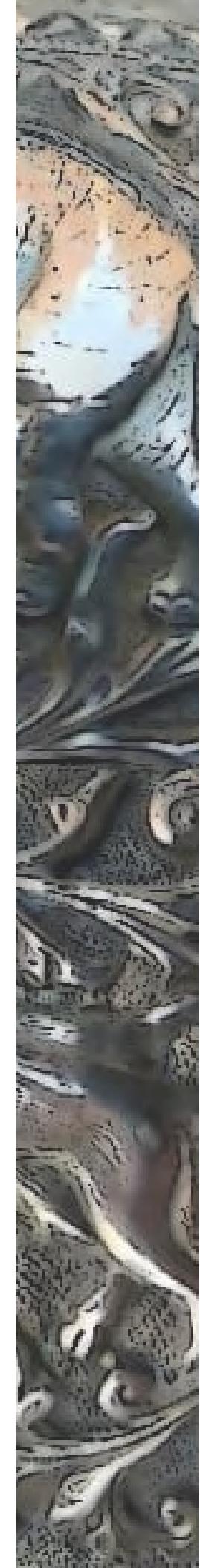
IMG (5.55)

Shaped work piece is busted on Lac (or lacquer) for support & hammered to accentuate shape & features



IMG (5.56)

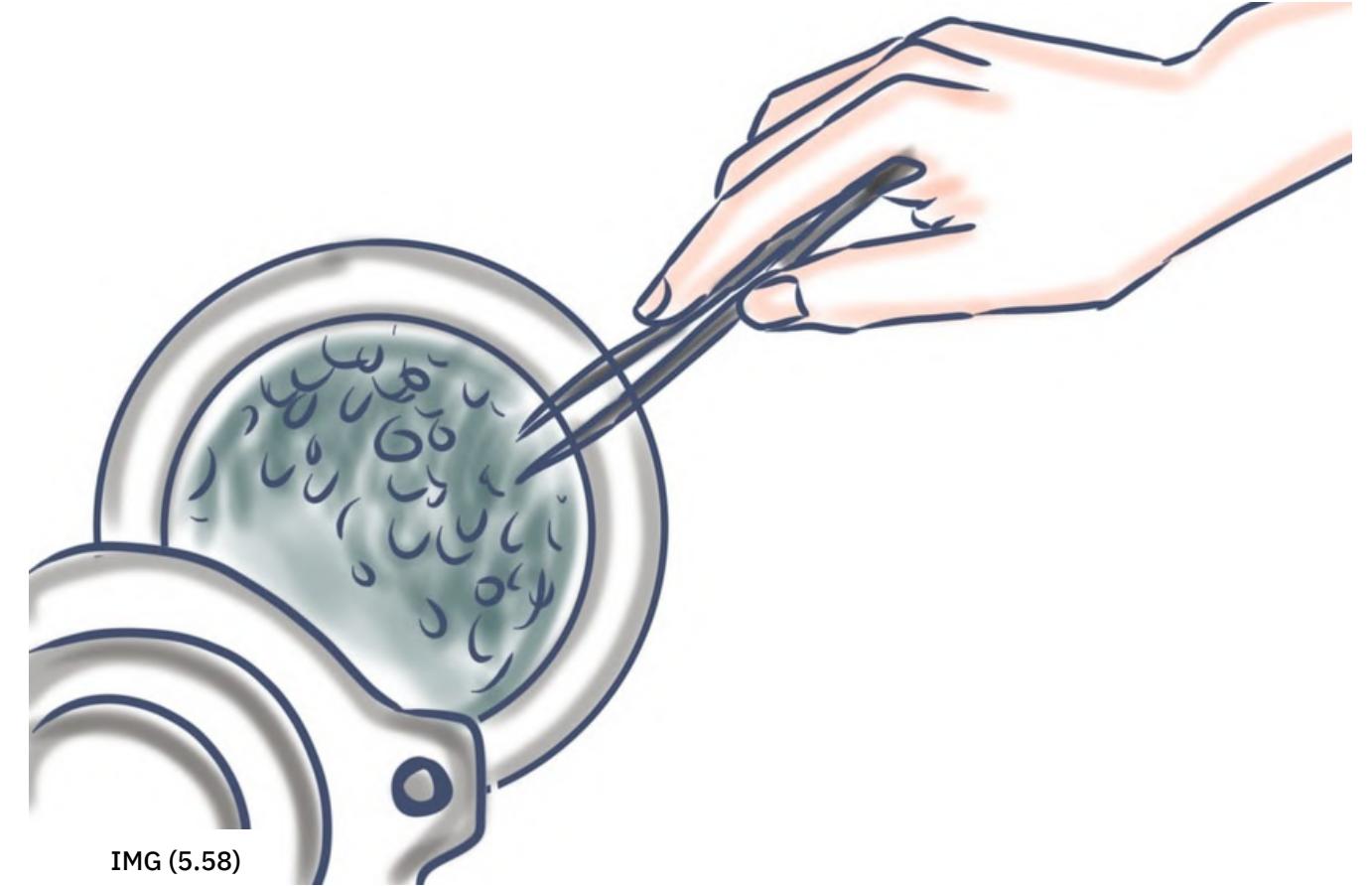
Removing Lac (or lacquer) by re-heating





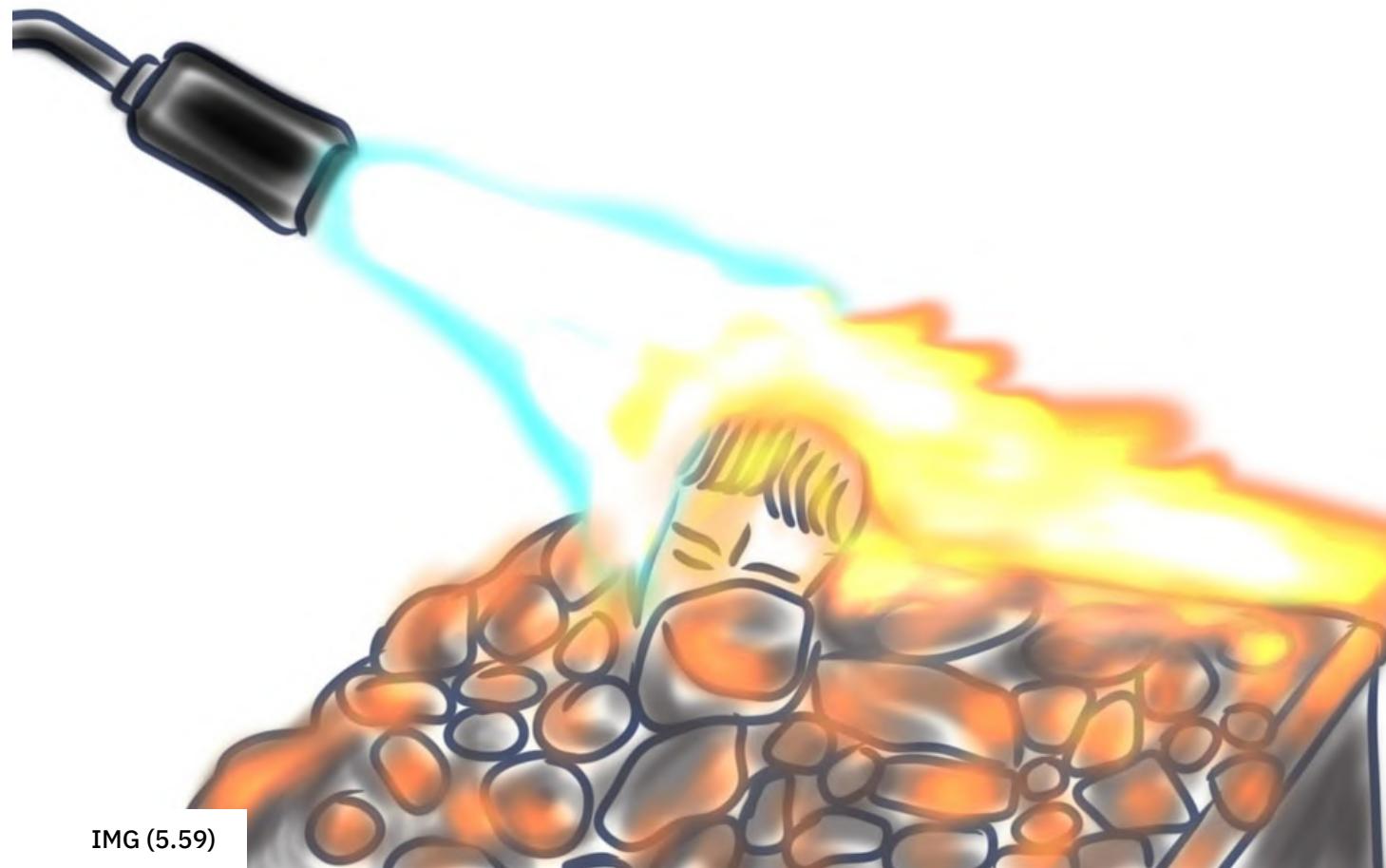
IMG (5.57)

Removing surplus lac residue using fabric dipped in dilute acid



IMG (5.58)

Alloy of other metal(s) are placed in ratio for soldering purpose



IMG (5.59)

Re-heating the parts to be joined by alloy to melt using heat



IMG (5.60)

Finished Metal Repousse Sculpture



Chapter- 6

Market Study



MARKET STUDY ACCORDING TO THE ARTISANS

According to the artisans of metal repousse craft the products prices are based on there size, shape, weight, material and also vary on labour cost. This craft is mostly done on the basis of demands and occasionally. There is not any specified timing to do this work it is done according to the size and the design patterns. Metal repousse is mostly done for the temple doors, idols of gods, pillars, god and goddess chowki, wedding chariots crowns and some other accessories and utensils. There are varieties of metal repousse products available in the markets of different categories. These products are mainly made up on Copper, Silver, Brass, Gold and German silver.

COPPER PRODUCTS:- Products made by the copper are idols of gods, temple doors, décor products etc.

- Size: 8 to 10 inches
- Weight: 200 to 250 gm
- Price: ₹.500 to ₹.600 according to the size and weight.
- Labour cost: ₹.150 to ₹.200





MARKET STUDY ACCORDING TO THE ARTISANS

SILVER PRODUCTS:- Silver is mostly used to make decorative items, cutlery, etc.

- Size: 2 to 12 inches
- Weight: 100 gm to 1 kg (depends on the product type like chariots, idols crown, kalash, etc.)
- Price: ₹.6,400 to ₹.64,000 (depends on the weight, design type, workload)
- Labor cost:
- Chariots: ₹.800 (per kg)
- Crown & Kalash: ₹.1,200 (per kg)

BRASS PRODUCT:- Here, designs patterns are made on the utensils and sold in the domestic markets and sometimes exported to the other countries too. Mostly used to make utensils and decor items.

- Size: 5 to 8 inches
- Weight: 200 to 250 gm
- Price: ₹.500 to ₹.700
- Labor cost: ₹.100 to ₹.150

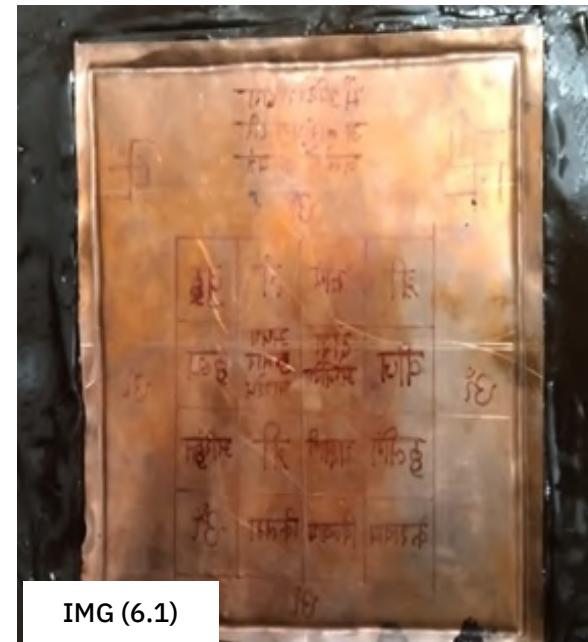
GOLD PRODUCTS:- With gold limited products are made due to the expensive costs. Products made are crowns, jewelry etc.

- Size: 6 to 8 inches
- Weight: 10 to 100 gm
- Price: ₹.50,000 to ₹.60000 as per the weight
- Labor cost: ₹.2,000 to ₹.4,000 (depends on the product and its size)

GERMAN SILVER:- German silver is an alloy of metals like copper, zinc and nickel. Mainly the products are made with this material is chowki, chariots, temples, doors, pillars etc.

- Size: 10 to 15 inches
- Weight: 1 to 2 kg
- Price: ₹.1,100 (or according to the weight)
- Labor cost: ₹.800 to ₹.900 (depends on the weight and size)

MATERIALS USED



IMG (6.1)

Copper



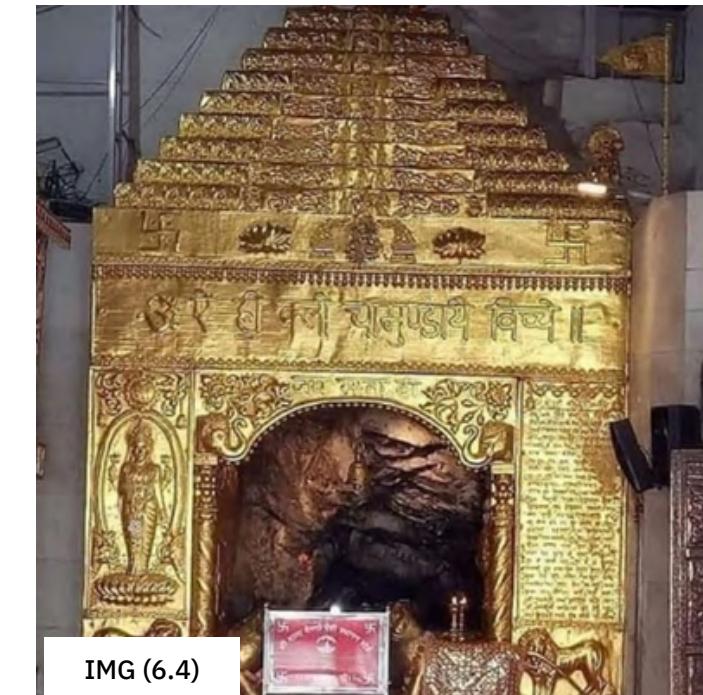
IMG (6.2)

Silver



IMG (6.3)

Brass



IMG (6.4)

Gold



IMG (6.5)

German Silver

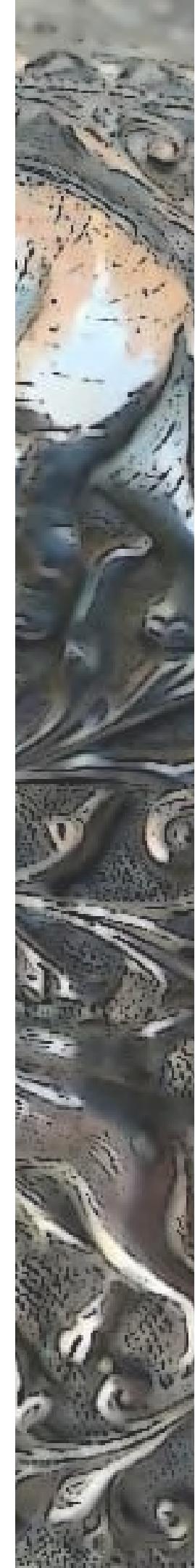


G.I. TAG

WHAT IS G.I. [GEOGRAPHICAL INDICATION] TAG?

A geographical indication (G.I.) is a sign given on products which show the product belong to a specific geographical location or origin like region, town, or country. The use of a geographical indication, as an indication of the product's source, acts as a certification that the product possesses certain qualities, is made according to traditional methods, or belong to a particular region. This tag is given by the Geographical Indication Registry under the Department of Industry Promotion and Internal Trade, Ministry of Commerce and Industry.

G.I. [Geographical Indication] tag given to Banaras metal repousse craft. The ancient Banaras metal repousse craft has been awarded the Geographical Indication (G.I.) tag by Chennai in 2016. Metal Repousse craft of Varanasi has been preserved for generations by Kasera community. Kasera community lives in localities of Ram Ghat, Nichi Bagh and Kashipura .Metal repousse craft is used to make jewellery, door and wall decoration of temples, and utensils from metals. Many metal repousse products like rath, singhasan, hauda, chhatri, dand are made for Mahakumbh Mela.





IMG (6.6)



IMG (6.7)



IMG (6.8)

WORKERS ENGAGED IN THE CRAFT

- Brass and copperwares were manufactured in 112 villages of 31 districts. Only 1,111 families with 3,018 workers were working in craft. Some bigger manufacturer employed other persons, either on daily wages or on a contract basis. In Government schemes, the craft practice was not considered as an industry.
- At Varanasi, they manufactured utensils like karahi, batua ,lota, patili, gilas, baiti, puja articles such as panchpatra ,gongs, kalash, flower basket, ghanti ,images of deities, wall decoration plaques, table lamps, flower vases. Brasswares was introduced about 176 years ago by Imam Baksh who migrated to this place from Lucknow. In 1950-51, the exporters and dealers of brassware formed the Brass Artware Manufacturers Association. The objective of the association was to preserve and promote the art of siah kalam. The Association helped in settling disputed and wage rates.



SCHMES

NON-FERROUS METAL SCHEME

- was started at Moradabad in July, 1950. The aim of the scheme was to train the local artisan boys to manufacture brassware. The workshop introduced modern machines and equipment to increase efficiency. Till June 30, 1963, 260 students were trained in shape making, moulding and casting, engraving, , polishing, electroplating. Some Scheduled Caste trainees were given stipends of Rs 30 by the Harijan Sahayak Department of the State.
- In 1964, the centre produced Rs.9,200.43 nP articles out of which Rs.6,173.34 nP articles were sold. Four new designs were designed for mass production. Exhibitions was set up at various places. The III Five Year Plan goal was to expand the industry and provide facilities to the industrialist.

QUALITY MARKING SCHEME

- The Quality Marking Scheme was introduced in 1948. It purpose of scheme was to standardize the production and quality of small scale industries. The Scheme has lead to the supply of standard goods and increase employment. Manufacturers got an opportunity to produce goods as per the prescribed standards and follow terms and conditions. The goods made according to the prescribed specifications get approval with a "Q" seal and Government Quality Certification Mark.

EMPLOYMENT OF MASTER CRAFTSMEN

- It was introduced in the year 1961- 62. One craftsman was selected in each group to train manufacturing of brassware in Moradabad and repoussé in Varanasi. They were given Rs. 25 to train the people. In 1961-62 a Common Facility Centre for copperware industry at Varanasi was organized. It aims at giving technical guidance to members and giving facilities to the artisans so that they produce according to the tastes of consumers.

SETBACK IN VARANASI ARTWARE INDUSTRY

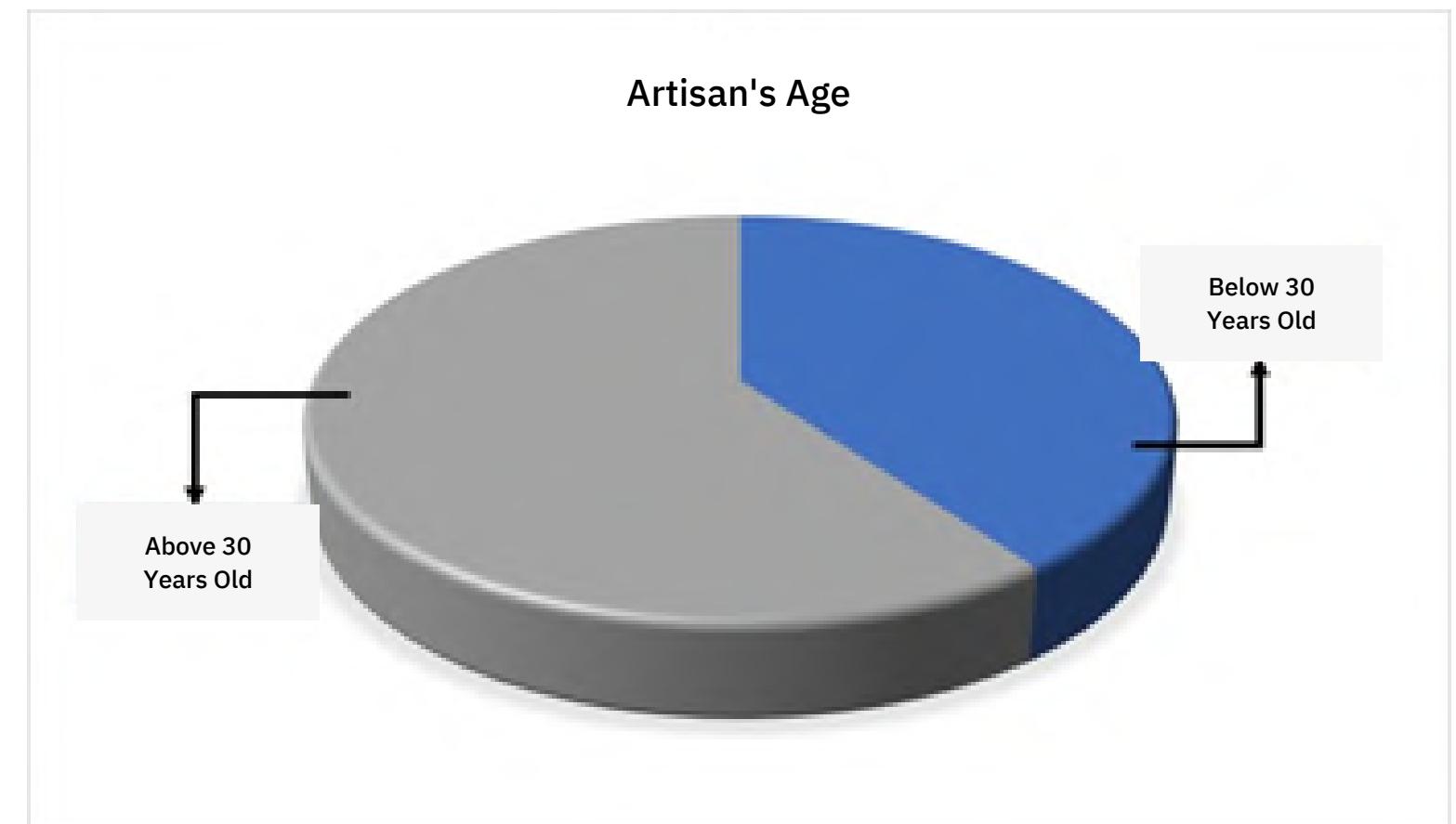
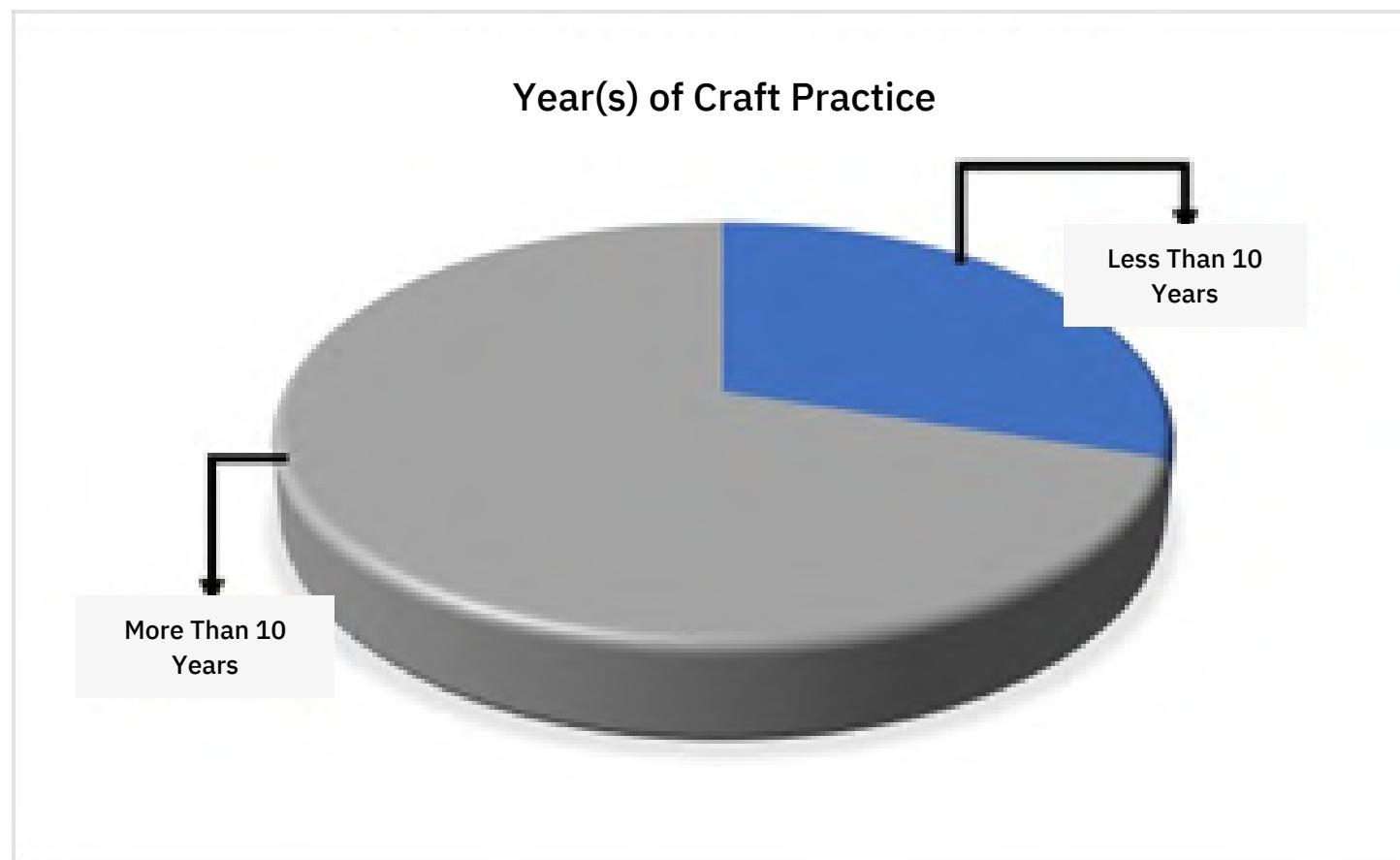
- In 1914, the brass and copper artware industry of Varanasi received a setback because to earn heavy profits the artisans started making products whose weight was increased by adulteration of lead in alloy. The foreign purchasers detected this malpractice and demand started declining. After 1950 the artware industry re-established.

Chapter- 7

Data Analysis



Chart Analysis according to the Questionnaire Survey taken by Group Participants

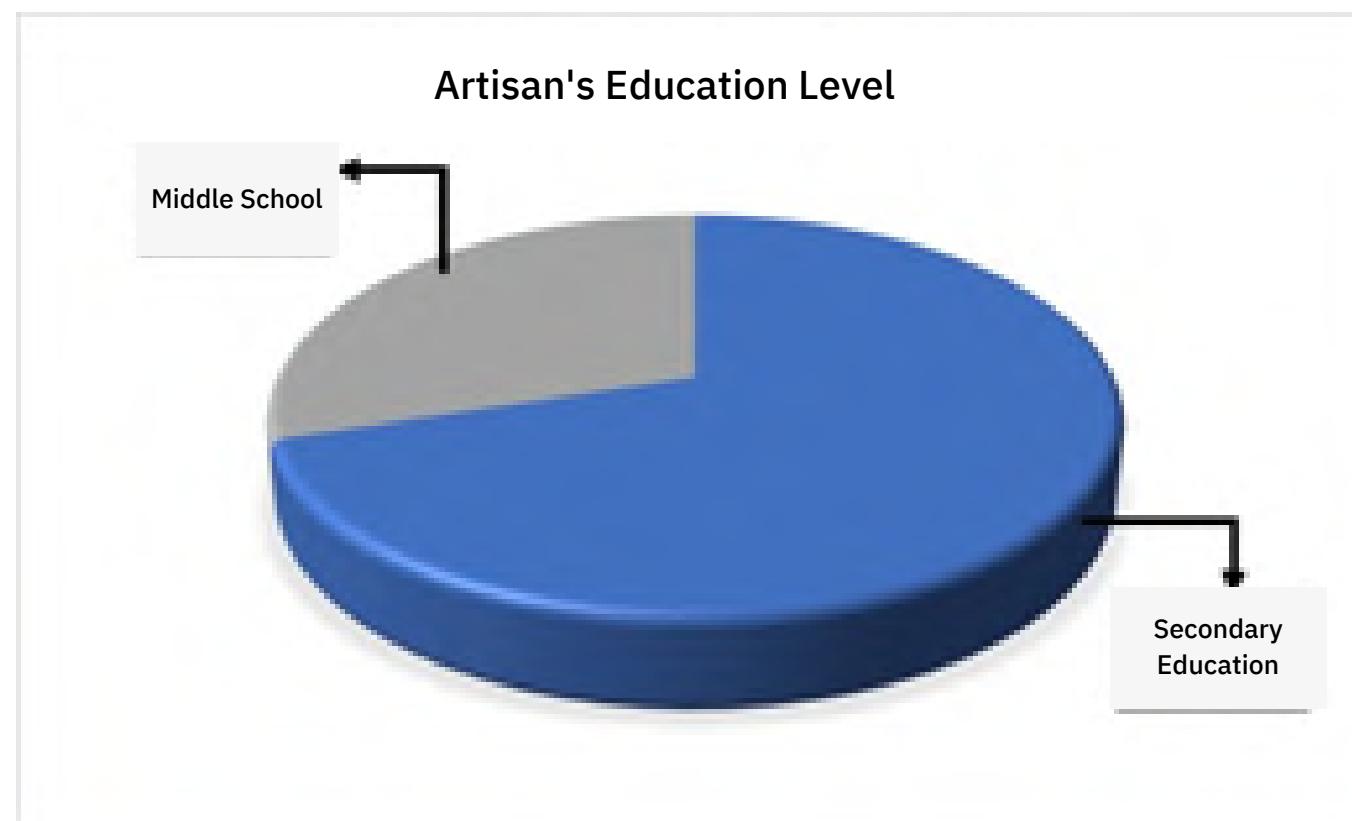


- 70% of the artisans had an experience of minimum 10 years
- 30% of the artisans had an experience of less than 10 years

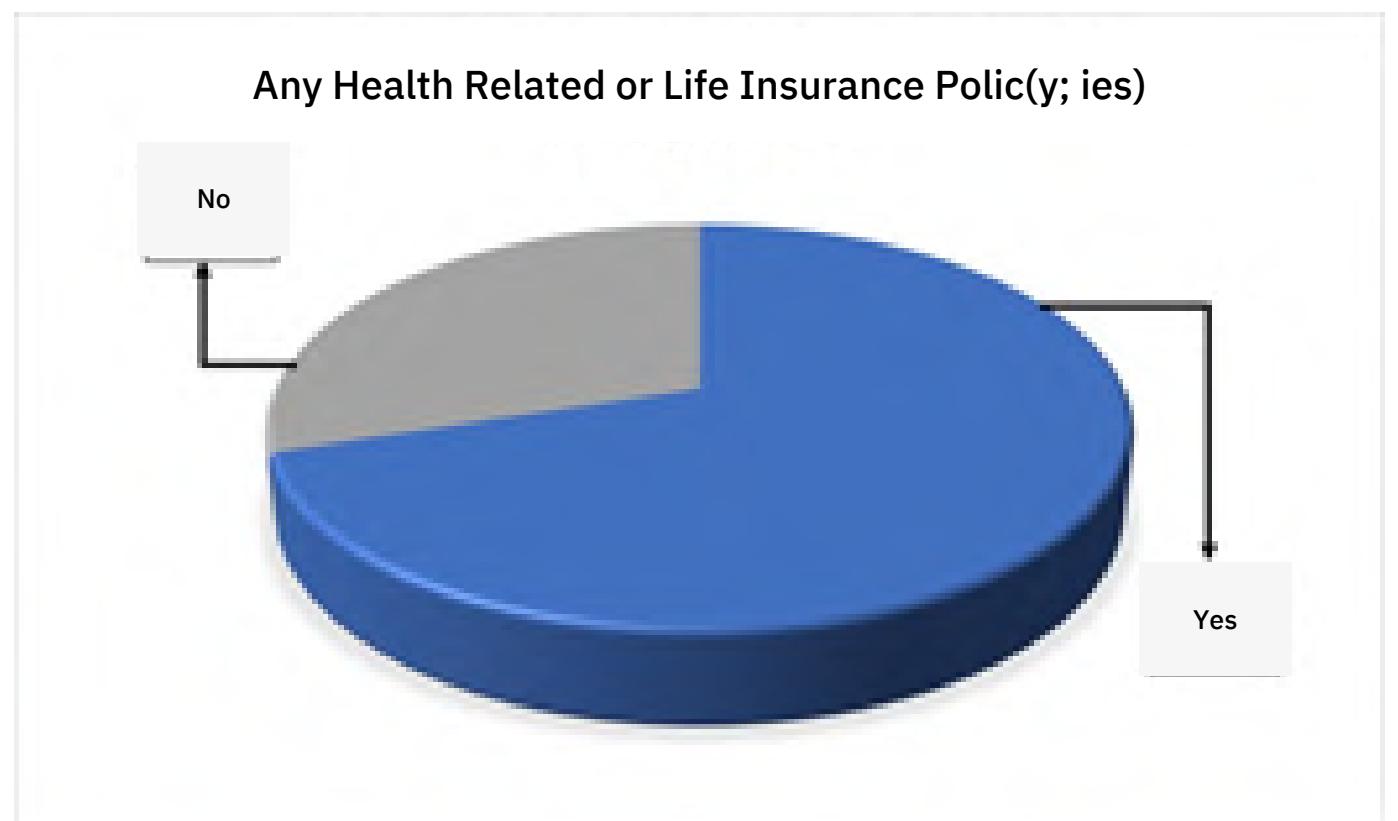
- 60% of the artisans were above 30 years of age
- 40% of the artisans were below 30 years of age



Chart Analysis according to the Questionnaire Survey taken by Group Participants



- 70% artisans were schooled till Middle School (Grade 6 to 8)
- 30% of the artisans were schooled till Secondary Education (Grade 9 to 12)

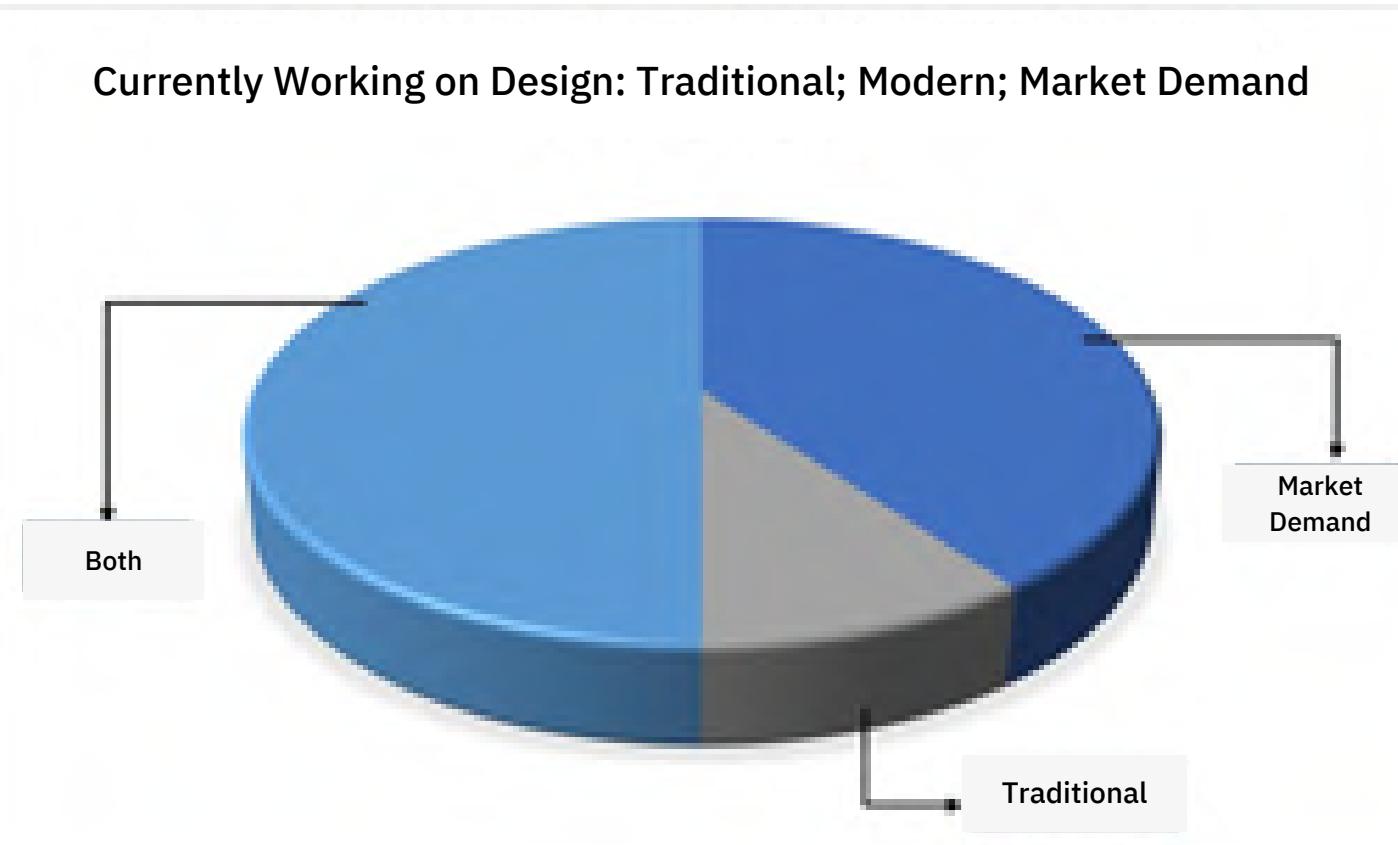


- 70% of the artisans were insured with Life Insurance Policy
- 30% of the artisans were not insured with any kind of policy



Chart Analysis according to the Questionnaire Survey taken by Group Participants

Currently Working on Design: Traditional; Modern; Market Demand



Mode of Employment: Self-employed; Hired by Other

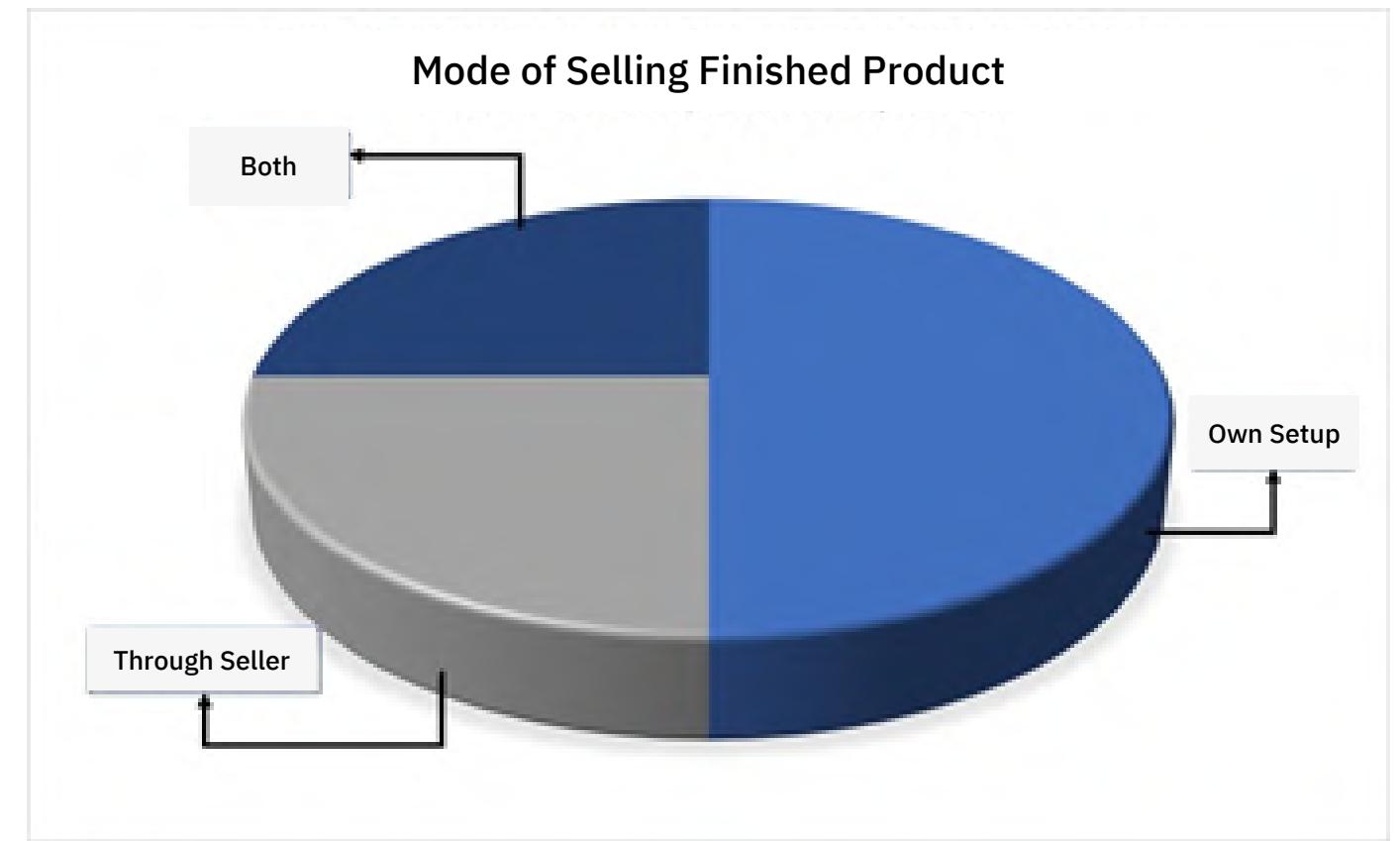
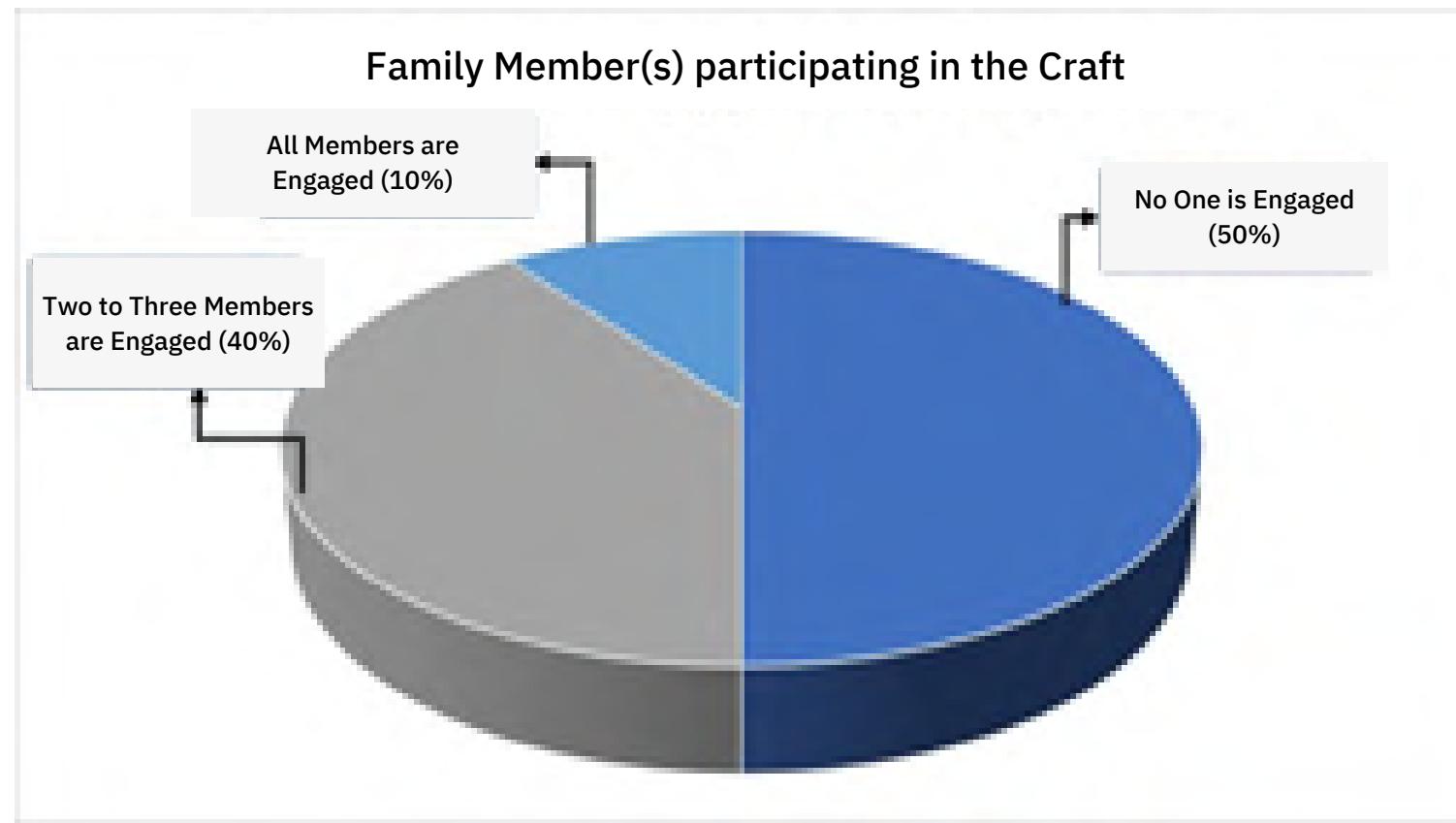


- 50% of the artisans were then working on both designs
- 15% of the artisans were then working on Traditional Design
- 35% of the artisans were then working on design according to Market's Demand

- 70% of the artisans are Self-Employed
- 20% of the artisans are Hired by Others
- 10% are both Self-Employed and Hired by Others



Pie Chart Analysis according to the Questionnaire Survey taken by Group Participants

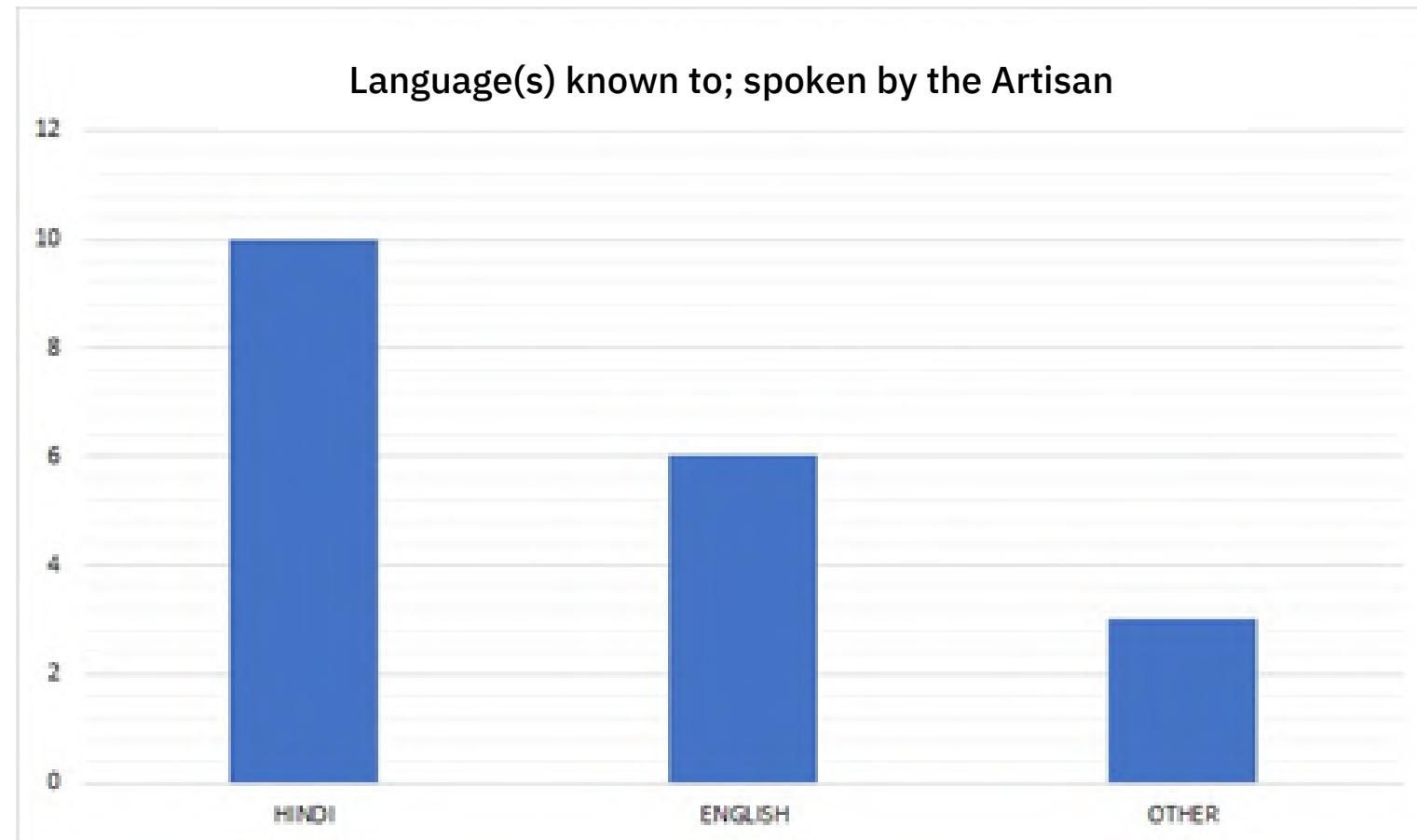


- 10% of the artisan's whole family practice the craft
- 40% of the artisan's two to three family members practice the craft
- 50% of the artisan's family members don't practice the craft at all

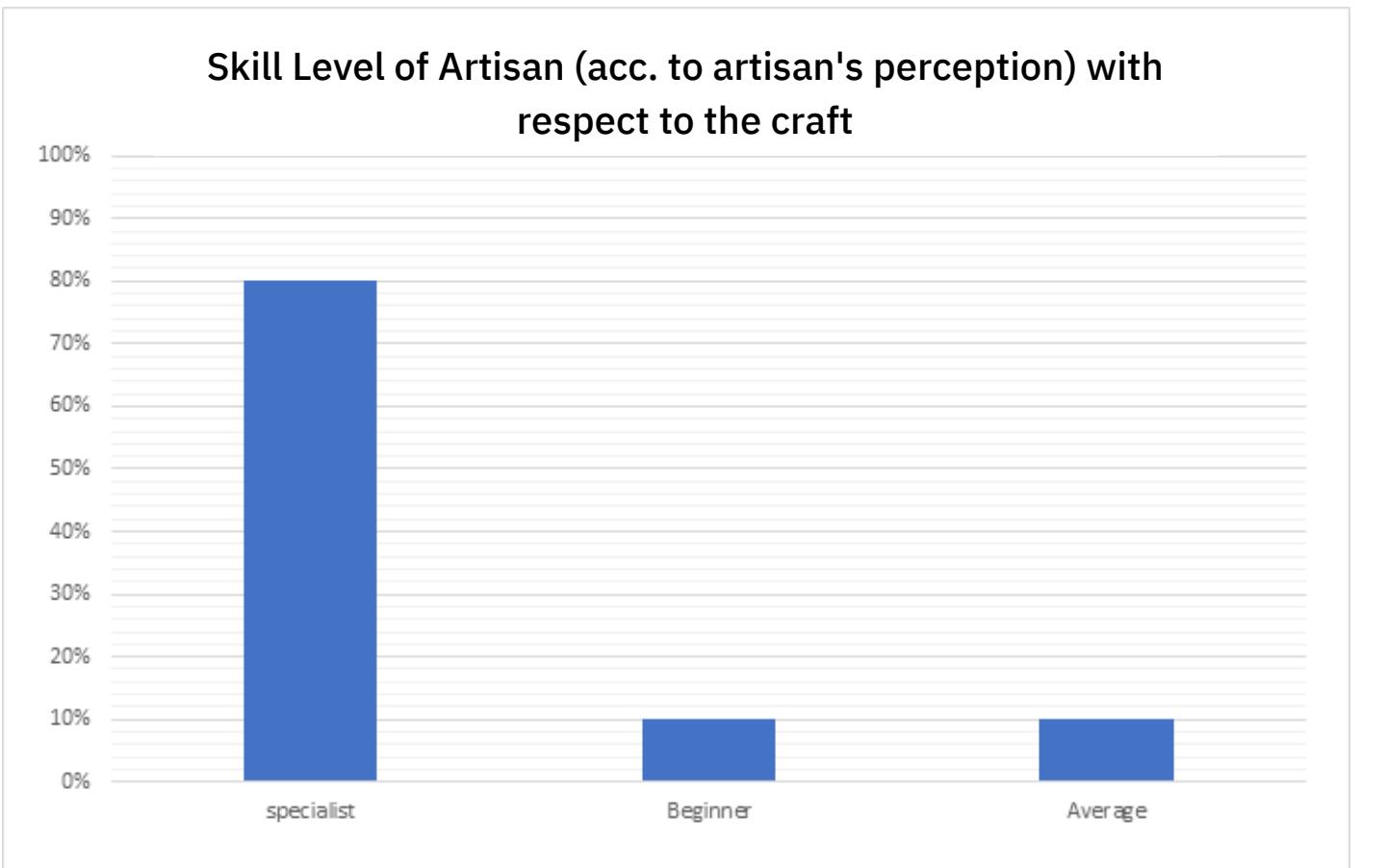
- 50% of the artisans had Own Shops Set-Up
- 30% of the artisans sell their products through Sellers
- 20% of the artisans use Both The Modes to Sell their products



Bar Chart Analysis according to the Questionnaire Survey taken by Group Participants



- 88% of all artisans could speak; decipher; write Hindi
- 50% of all artisans could speak; decipher; write English
- 20% of all artisans could speak; decipher; write Other Language(s)



- 80% of the artisans consider them self as a Specialist in the craft
- 10% of the artisans consider them self as a Beginner in the craft
- 10% of the artisans consider them self as an Average in the craft

Chapter- 8

S.W.O.T. Analysis

This is an analysis based on the information collected by our group from the artisans practicing Metal Repousse in Varanasi, Lucknow and nearby places.

Following are the conclusions derived from the same:

STRENGTH

- The artisans have passed this craft on from generations.
- It is the potential source of foreign revenue because of higher export.
- Artisans have mastered the art as best as one can.
- Most of them don't work under anyone, they're self-employed.
- There is large product variety and range is available because of diversified culture.
- It need low capital investment.
- Promotes and preserves cultural values.

OPPORTUNITY

- Provides employment to even rural illiterate.
- Increasing emphasis on product development and design up gradation.
- Increasing demand at international markets especially in developed countries.
- Various NGOs are working in this field.
- Developing fashion industry requires handicrafts products.
- Development of sectors like Retail, Real Estate that offers great requirements of handicrafts products.
- Development of domestic and international tourism sector.
- E-Commerce and Internet are emerged to sell the craft products.

WEAKNESS

- Confined to rural areas and small cities
- Less interest of young people in craft industry.
- Lack of information about government aid/credit facilities.
- Most of the artisans aren't graduates their options for better side jobs is limited.
- Artisans are under-paid and do not want to indulge their children in the craft.
- They have a hard time maintaining any lifestyle.
- There are some health hazards such as burns, cuts and minor injuries that they face practicing this craft.
- They haven't evolved techniques or explored any new product or material since they know very less of the trending market.
- The major craft have problems of infrastructure like power shortage, and lack of proper port facilities.
- No subsidy is provided to the artisan by the government.
- Lack of design, innovation and technology up gradation.
- They have problem in price negotiation with the customer, delay in payment, market competition and low market demand.

THREATS

- Competition in domestic market.
- Decreasing demand due to change in the taste & interest of people
- Competition with latest machine made products of large industries.
- Problems of quality and durability due to it being hand-made.
- Balance between demand and supply.
- Less gain as compared to hard work as middlemen earn huge profit.
- Improper implementation of government schemes.
- Upcoming generations not choosing to practice the craft.
- Products produced by competing countries like China, South Africa.

Chapter- 9

Artisan's Profile



Sanjay Kumar Dubey

- Work Experience: 18+ yrs
- Monthly Income: (-) Did not disclose
- Education: 8th Std. Passout
- Mode of Employment: Self
- Received Training: Yes
- Bank Account: Yes
- Uses Internet: Yes



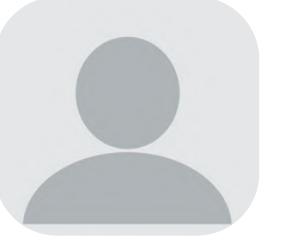
Raju Bulatan

- Work Experience: 15+ yrs
- Monthly Income: (-) Did not disclose
- Education: 12th Std. Passout
- Mode of Employment: Self
- Received Training: Yes
- Bank Account: Yes (U.B.I.)
- Uses Internet: Yes



Rajat Kumar

- Work Experience: 12+ yrs
- Monthly Income: 15,000 INR (Self)
- Education: 12th Std. Passout
- Mode of Employment: Self
- Received Training: Yes
- Bank Account: Yes (U.B.I.)
- Uses Internet: Yes



Aman Kumar

- Work Experience: 15+ yrs
- Monthly Income: (-) Did not disclose
- Education: 7th Std. Passout
- Mode of Employment: Hired
- Received Training: No
- Bank Account: Yes (P.N.B.)
- Uses Internet: Yes



Sunil Kumar

- Work Experience: 15+ yrs
- Monthly Income: 15,000 - 20,000 INR (Self)
- Education: 12th Std. Passout
- Mode of Employment: Hired
- Received Training: Yes
- Bank Account: Yes (B.O.B.)
- Uses Internet: Yes



Binod

- Work Experience: 10+ yrs
- Monthly Income: 10,000 - 15,000 INR (Self)
- Education: 12th Std. Passout
- Mode of Employment: Hired
- Received Training: Yes
- Bank Account: (-) Did not disclose
- Uses Internet: Yes



Munna Lal

- Work Experience: 20+ yrs
- Monthly Income: 15,000 - 20,000 INR (Self)
- Education: 12th Std. Passout
- Mode of Employment: Self & Hired
- Received Training: Yes
- Bank Account: (-) Did not disclose
- Uses Internet: Yes



Kishan Kumar

- Work Experience: 7+ yrs
- Monthly Income: 13,000 - 19,000 INR (Self)
- Education: 12th Std. Passout
- Mode of Employment: Self
- Received Training: Yes
- Bank Account: Yes
- Uses Internet: Yes



Sanjay Kumar

- Work Experience: 10+ yrs
- Monthly Income: 10,000 - 15,000 INR (Self)
- Education: 12th Std. Passout
- Mode of Employment: Self
- Received Training: No
- Bank Account: Yes (P.N.B.)
- Uses Internet: Yes

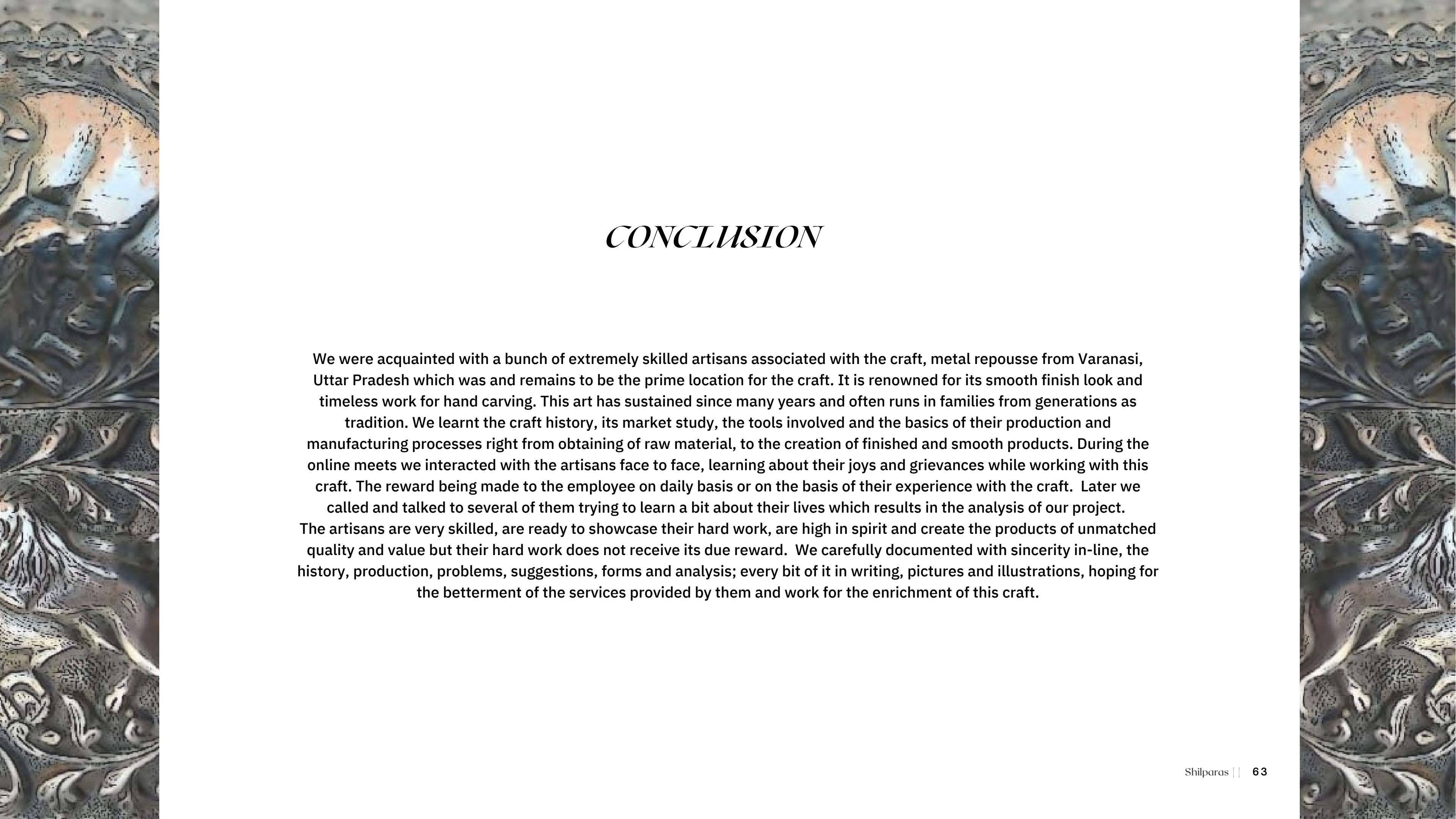


Santosh Kasera

- Work Experience: 40+ yrs
- Monthly Income: (-) Did not disclose
- Education: 7th Std. Passout
- Mode of Employment: Self
- Received Training: Yes
- Bank Account: Yes
- Uses Internet: Yes

Annexure

• Artisan's Name	Sanjay Kumar Dubey	
• Contact Number	+91 9140964403	No
• Residential Address	Kashipura, Banaras, UP	No
• Age	29 years old	No
• Gender/Sex	Male	No
• Level of Education	8th Standard Passout	No
• Language(s) Known	Hindi, English	Yes
• Readable Language(s)	Hindi	Yes
• Writable Language(s)	Hindi	No
• Size of Family Unit	8 Members	No
• Associated Craft	Metal Repousse'	Burns, Minor Injuries
• Year(s) of Craft Practice	18+ Years	No
• Any Family Member(s) in the Craft	None	Market's Demand
• Avg. No. of Hour(s)/Week spent on Craft	84 hours (12 hrs/day)	No
• No. of Month(s) spent on Craft Practices	6-8 active months	No
• Engagement in any other Craft/Work	No	No
• Month(s) when Craft is in High Demand	October to November	Average
• Change in Location of Craft Practices	No	Self-Employed
• Member of any Organization(s)	No	No
• (If Any) Training Child(ren) in the Craft	No	Design type, material
• Current Monthly Income (By Craft Work)	(-) Denied to disclose	Local Market(s)
• Current Monthly Income (From Elsewhere)	(-) No	Increasing Prices
• (If Any) Active Savings Account(s)	Yes	No
• Current Residence/Dwelling Type	Private Residence	Own Set-up
• (If Private) Type of Residence Built	Pakka House	Price Bargain
<ul style="list-style-type: none"> • (If Rented) Amount of Rent/Month • (In last 2 yrs) Any Land purchased • (In last 2 yrs) Any Cattle purchased • (In last 2 yrs) Any Vehicle purchased • (In last 2 yrs) Any Electronics purchased • (In last 2 yrs) Any Mobile purchased • (In last 2 yrs) Any Gas Connection purchased • (In last 2 yrs) Any Computer purchased • (In last 2 yrs) Any Other Item(s) purchased • Health Hazard(s) linked with craft work • Health related; Life Insurance Policy • Type of design currently being worked on • Adoption of New Technique(s) • Any New Product developed • Any New Material explored • Skill Level (Acc. to Artisan) • Mode of Employment • Any training artisan recently went through • Deciding factor(s) on MRP of product • Raw Material is derived from • Problems faced when buying raw material • Any subsidy provided by the Government • Mode of selling products • Problem(s) faced when selling products 		



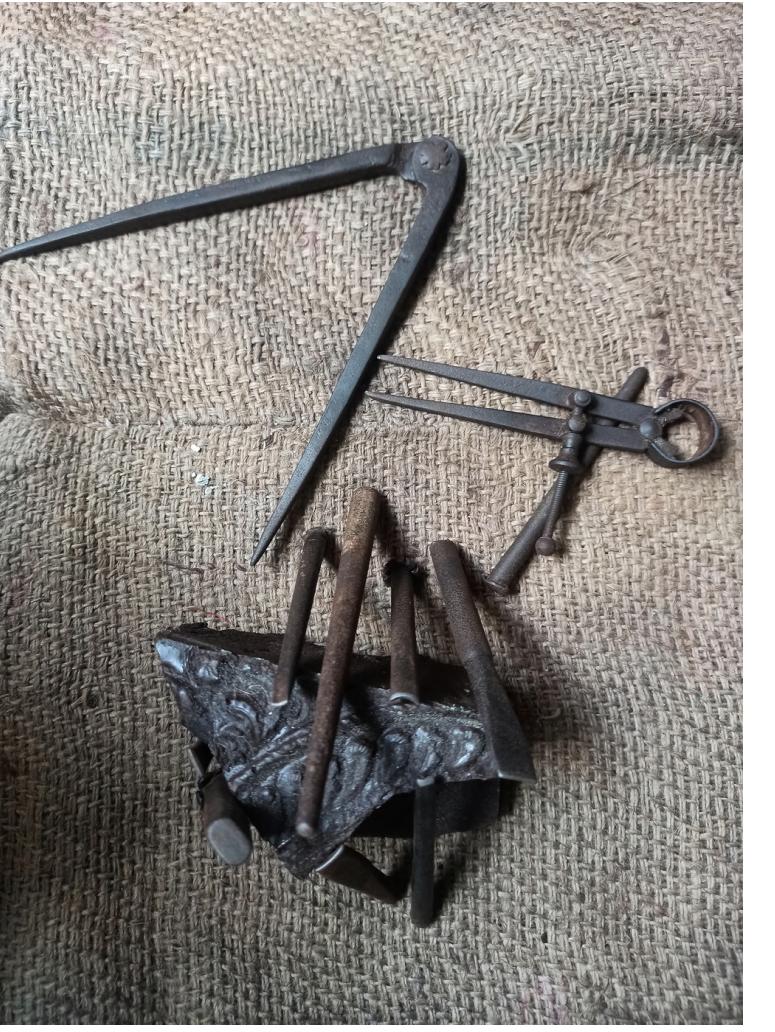
CONCLUSION

We were acquainted with a bunch of extremely skilled artisans associated with the craft, metal repousse from Varanasi, Uttar Pradesh which was and remains to be the prime location for the craft. It is renowned for its smooth finish look and timeless work for hand carving. This art has sustained since many years and often runs in families from generations as tradition. We learnt the craft history, its market study, the tools involved and the basics of their production and manufacturing processes right from obtaining of raw material, to the creation of finished and smooth products. During the online meets we interacted with the artisans face to face, learning about their joys and grievances while working with this craft. The reward being made to the employee on daily basis or on the basis of their experience with the craft. Later we called and talked to several of them trying to learn a bit about their lives which results in the analysis of our project. The artisans are very skilled, are ready to showcase their hard work, are high in spirit and create the products of unmatched quality and value but their hard work does not receive its due reward. We carefully documented with sincerity in-line, the history, production, problems, suggestions, forms and analysis; every bit of it in writing, pictures and illustrations, hoping for the betterment of the services provided by them and work for the enrichment of this craft.

Field Visit

Visited to artisan's place where he worked on different metal repousse craft pieces









MARKET STUDY ACCORDING TO THE ARTISANS



According to the artisans of metal repousse craft the products prices are based on there size, shape, weight, material and also vary on labour cost. This craft is mostly done on the basis of demands and occasionally. There is not any specified timing to do this work it is done according to the size and the design patterns. Metal repousse is mostly done for the temple doors, idols of gods, pillars, god and goddess chowki, wedding chariots crowns and some other accessories and utensils. There are varieties of metal repousse products available in the markets of different categories. These products are mainly made up on Copper, Silver, Brass, Gold and German silver.

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- Size: 2 to 12 inches
- Weight: 100 gm to 1 kg (depends on the product type like chariots, idols crown, kalash, etc.)
- Price: ₹.6,400 to ₹.64,000 (depends on the weight, design type, workload)
- Labor cost:
- Chariots: ₹.800 (per kg)
- Crown & Kalash: ₹.1,200 (per kg)

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- Size: 5 to 8 inches
- Weight: 200 to 250 gm
- Price: ₹.500 to ₹.700
- Labor cost: ₹.100 to ₹.150

GOLD PRODUCTS:- With gold limited products are made due to the expensive costs. Products made are crowns, jewelry etc.

- Size: 6 to 8 inches
- Weight: 10 to 100 gm
- Price: ₹.50,000 to ₹.60000 as per the weight
- Labor cost: ₹.2,000 to ₹.4,000 (depends on the product and its size)

GERMAN SILVER:- German silver is an alloy of metals like copper, zinc and nickel. Mainly the products are made with this material is chowki, chariots, temples, doors, pillars etc.

- Size: 10 to 15 inches
- Weight: 1 to 2 kg
- Price: ₹.1,100 (or according to the weight)
- Labor cost: ₹.800 to ₹.900 (depends on the weight and size)

Design brief

To design a ‘Metal Repousse’ craft based product for a commercial hotel space for those consumers that want fine dining utensils & cutlery to be added to their dinning experience.





CONCEPT BRIEF

TARGET

30 - 45 years, Indians, Employed, Married/Unmarried. Anyone visiting the restaurant can use the product. Individuals that prefer stays at high-end hotels & resorts. Those that would prefer having their meals in fine dining tableware to enhance stay experience. Those who consider having food not just as a task but a significant event of the day when they relax & enjoy their meal.

POSSIBLE OPPORTUNITY

Potential opportunity possible in this case scenario is to: Amplify user experience, honor & acknowledge repousse metal work, add a traditionally aesthetic touch to dining experience & appreciate Indian metal work by crafting tableware with it.

BREAKTHROUGH AREA

Utensils available at high-end hotels or resorts either have plain or contemporary-modern style tableware that serve the purpose yet doesn't celebrate our heritage & culture. Tableware made with repousse metal work makes users respect & recognize our country's artforms & handicrafts, adding patriotic fulfillment to their experience.



LUXURY RESTAURANT

- Luxury isn't just about expensive prices; it's also about excellent craftsmanship, ideas, details, ingredients, service, ambience, the value placed on highly qualified restaurant staff, and, finally, that elusive ingredient called creativity that elevates the commonplace to the sublime.
- Ancient style makeover of room
- Motifs like flower, mandala art, human form, historical scenes and patterns are used.

Boards

CONSUMER

Adult
Unisex
Indian
All Religions
Active
Employed
Established
Hardworking
Corporate Employment
Business Owner
30 to 45 years



M A R K E T S E G M E N T A T I O N

Demographic Segmentation

Age: 30 to 45 years
Income Group: 1,00,000 to 4,00,000 INR/ month
Ethnicity: Indian
Gender: All (Unisex)
Marital Status: Married, Unmarried
Religion: All
Region: India
Level of Education: Graduate, Post-Graduate
Occupation: Corporate Employment

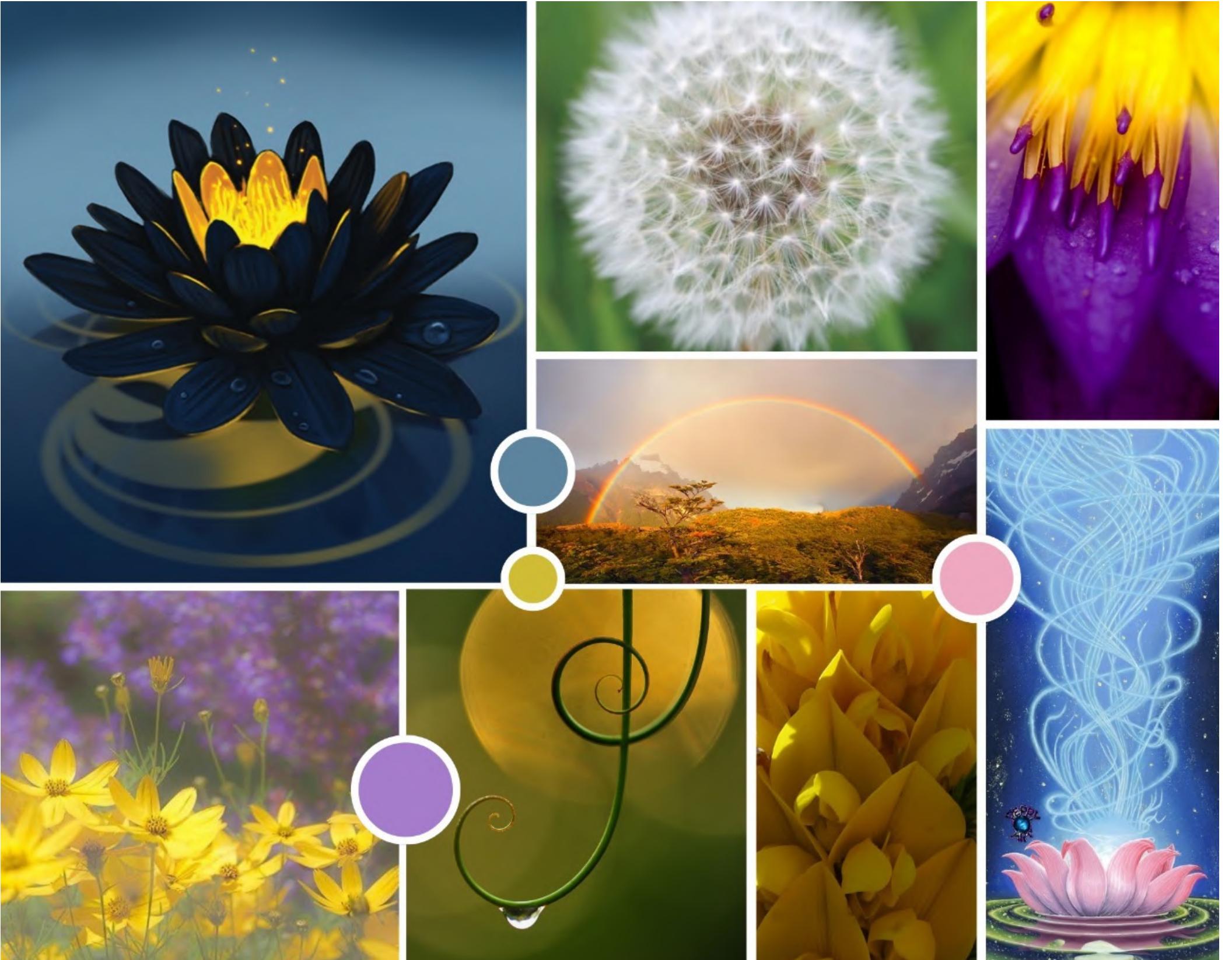
Psychographic Segmentation

Attitude: Grounded, Humble, Mature
Values: Family, Career, Friendship
Interests: Multiple
Lifestyle: Busy, Routined, Disciplined
Personality: Confident, Flexible, Approachable
Behavior: Active, Inclusive, Keen, Highly Adaptable



Theme board

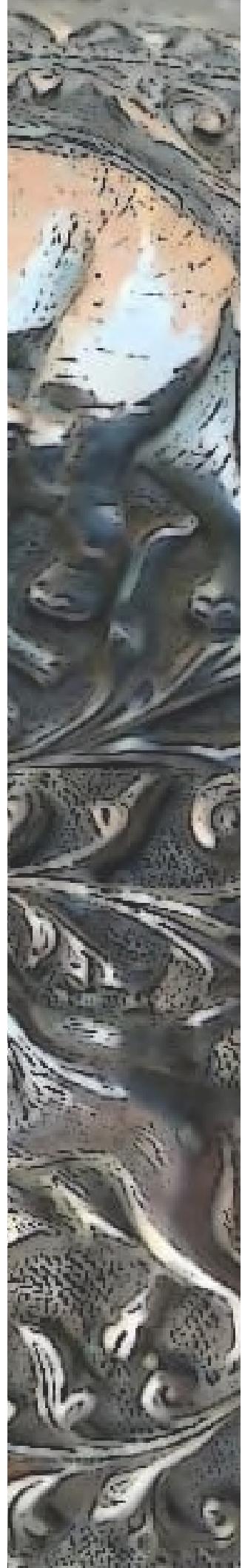
"Harmony"



Inspiración board

"Floral Geometry"

Floral symmetry describes whether, and how, a flower, in particular its perianth, can be divided into two or more identical or mirror-image parts. Uncommonly, flowers may have no axis of symmetry at all, typically because their parts are spirally arranged.



PRODUCT STUDY

CANDLESTICK HOLDER

A candlestick is a device used to hold a candle in place. Candlesticks have a cup or a spike ("pricket") or both to keep the candle in place. Candlesticks are less frequently called "candleholders".



TYPES OF CANDLESTICK HOLDERS

Taper candle holders, Votive candle holders, Candelabras, Lanterns, Pillars, and Tea light candle holders are among the most popular types of candle holders available today.



MATERIALS AVAILABLE

Candle holders are available in various materials like

- glass
- wrought iron
- brass
- plastic
- aluminium
- stainless steel
- wood or ceramic and many more.



PRODUCT STUDY

EARTHEN LAMP

Clay diyas are symbolically lit during prayers, rituals and ceremonies; they are permanent fixtures in homes and temples. The warm, bright glow emitted from a diya is considered auspicious - it represents enlightenment, prosperity, knowledge and wisdom.

A diya, diyo, deya, deeya, dia, divaa, deepa, deepam, deep , deepak or saaki is an oil lamp made from clay or mud with a cotton wick dipped in Oil or ghee.

MATERIALS AVAILABLE

Earthen lamps are available in various materials like

- glass
- ceramic
- brass
- aluminium
- stainless steel

SIZING

Average lamp measures 4 cms in diameter, 2 cms in height and weighs approx 20 gram each



PRODUCT STUDY

MUTATION OF LAMP AND CANDLESTICK HOLDER

MATERIALS AVAILABLE

Available in various materials like

- glass
- ceramic
- brass
- aluminium
- stainless steel
- wood or ceramic and many more.

SIZING

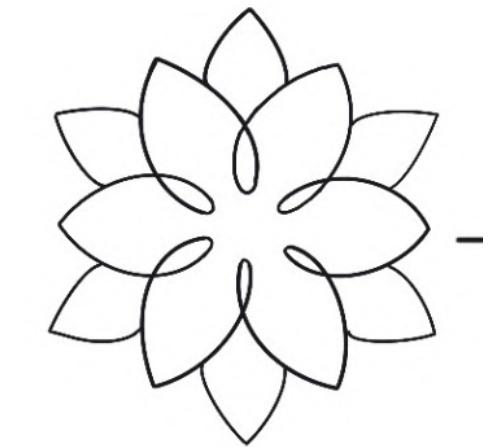
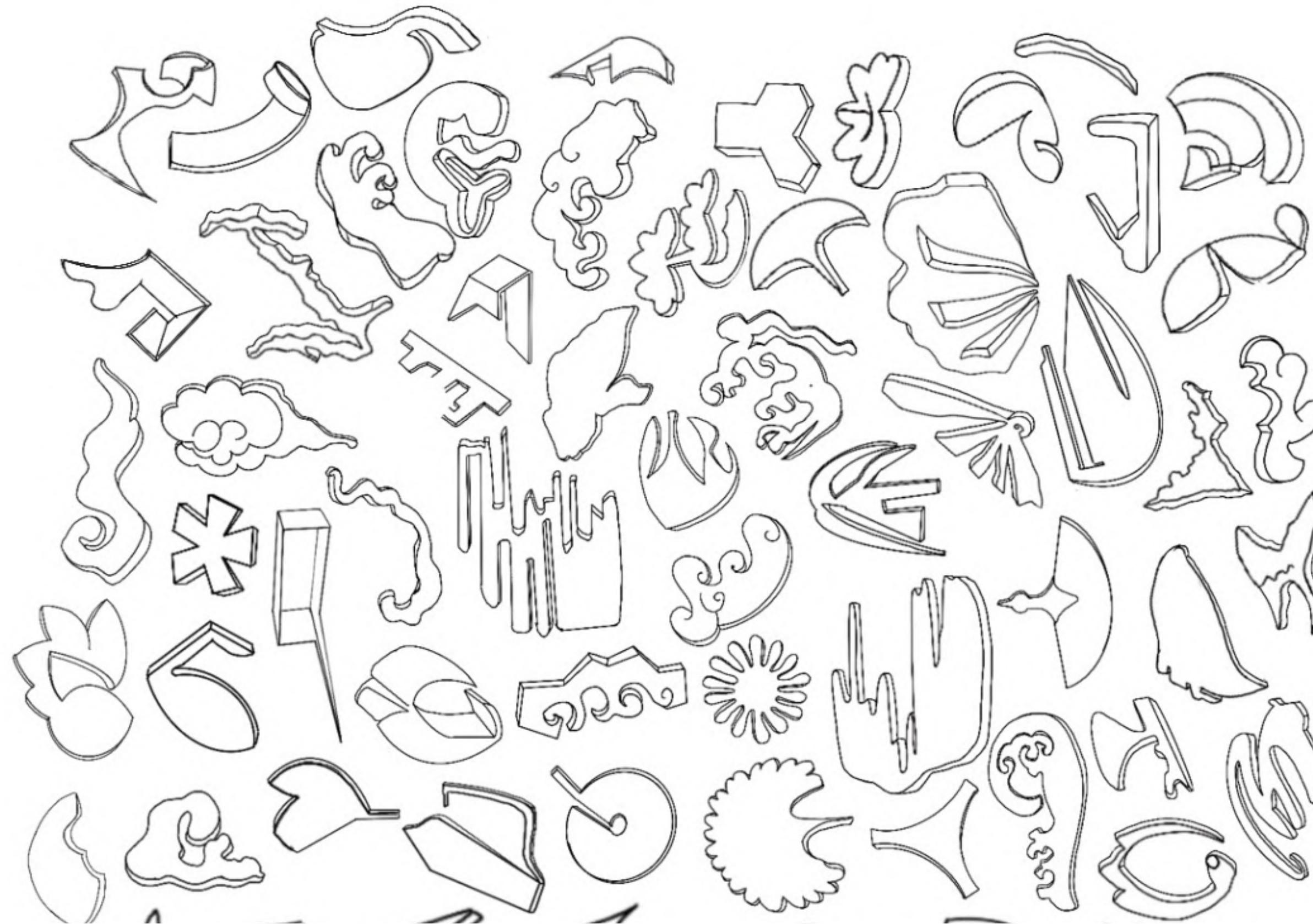
Earthen Lamp: Average lamp measures 4 cms in diameter, 2 cms in height and weighs approx 20 gram each



Motif & form generation



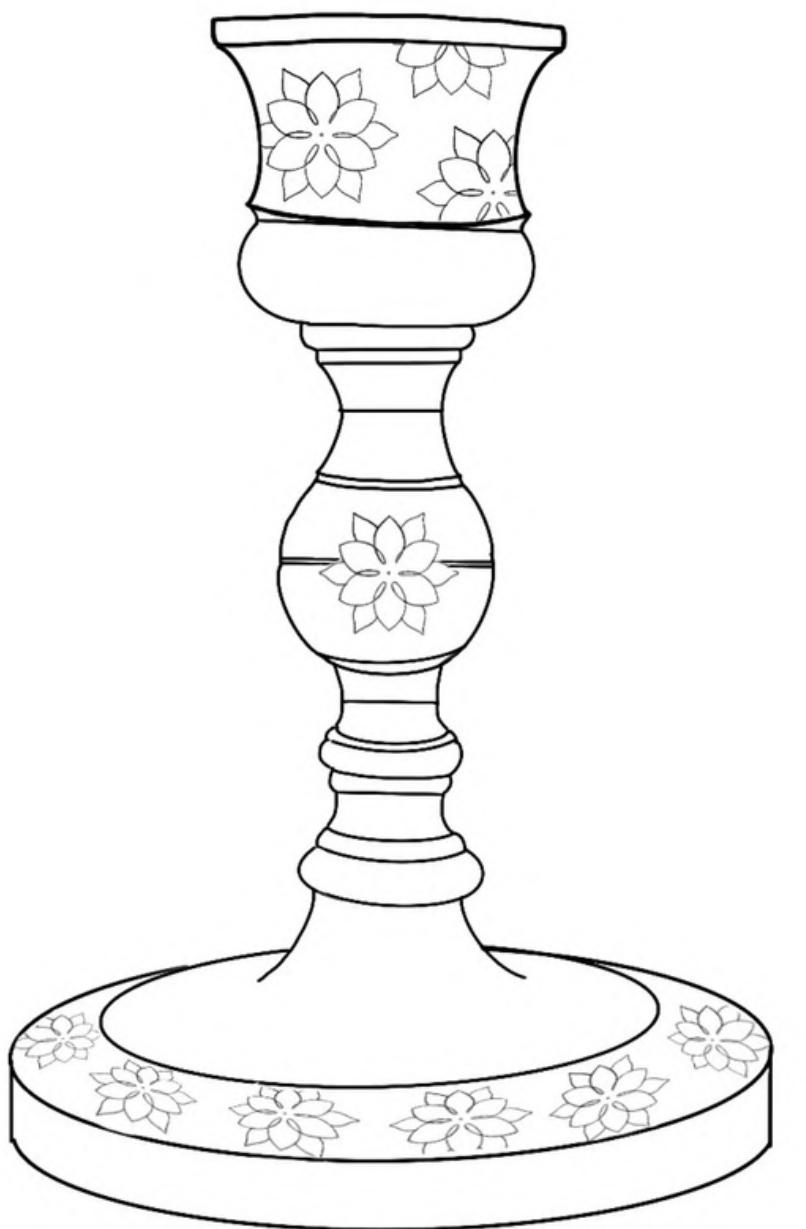
Motif & form generation



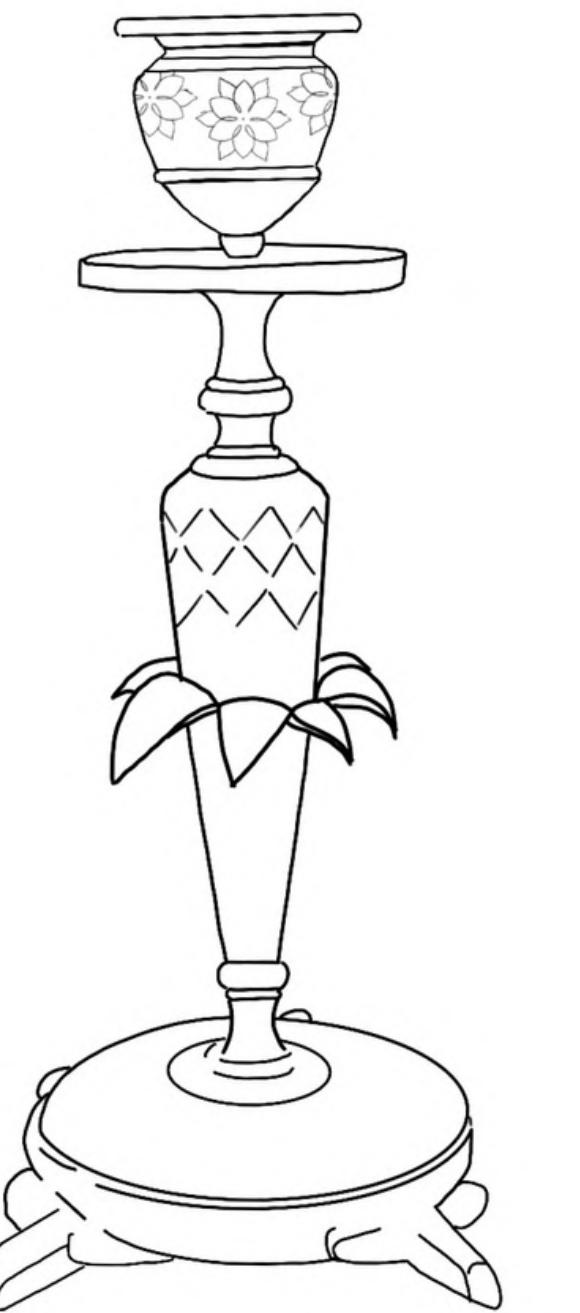
SELECTED MOTIF

Ideations

SKETCH 1

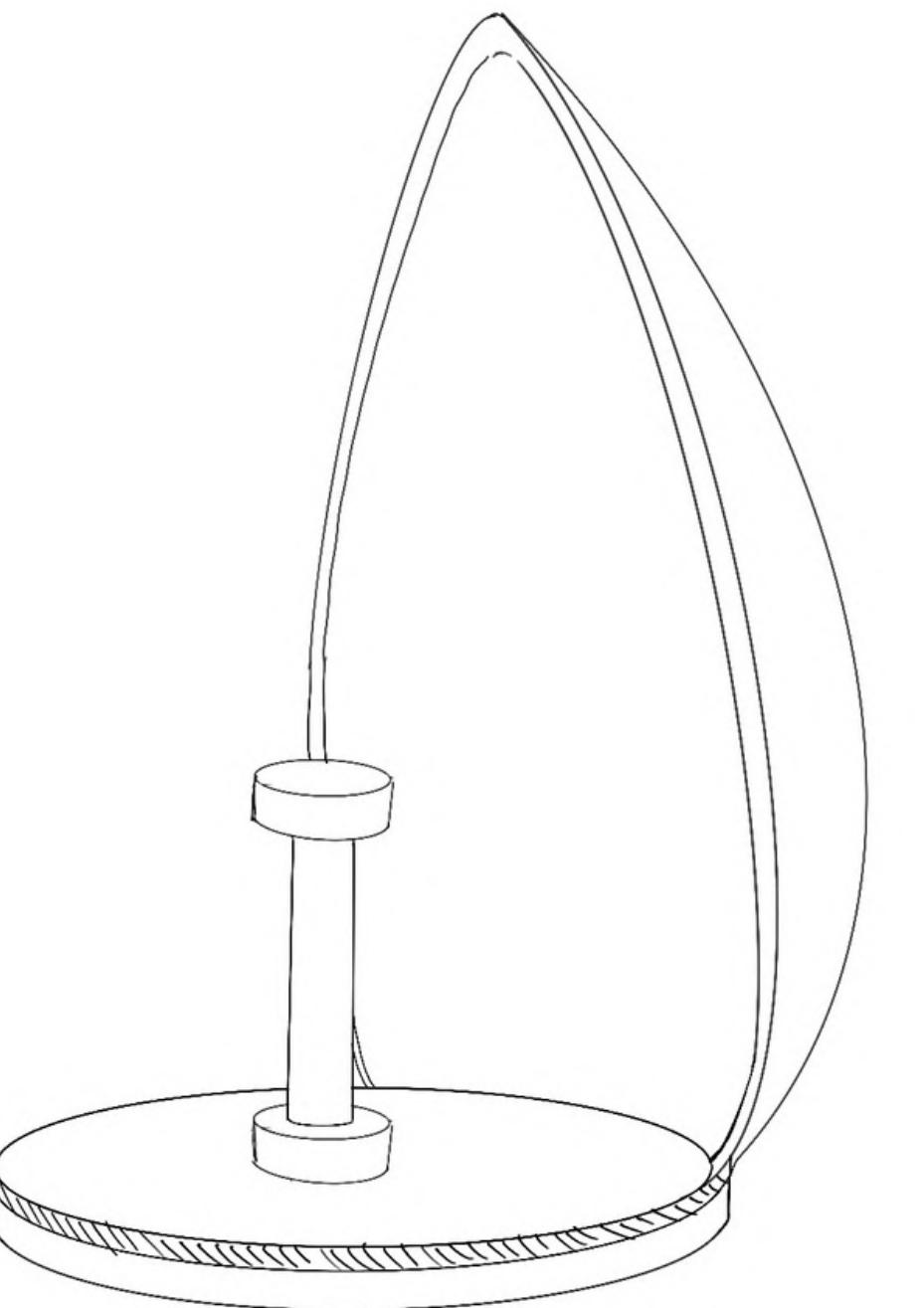
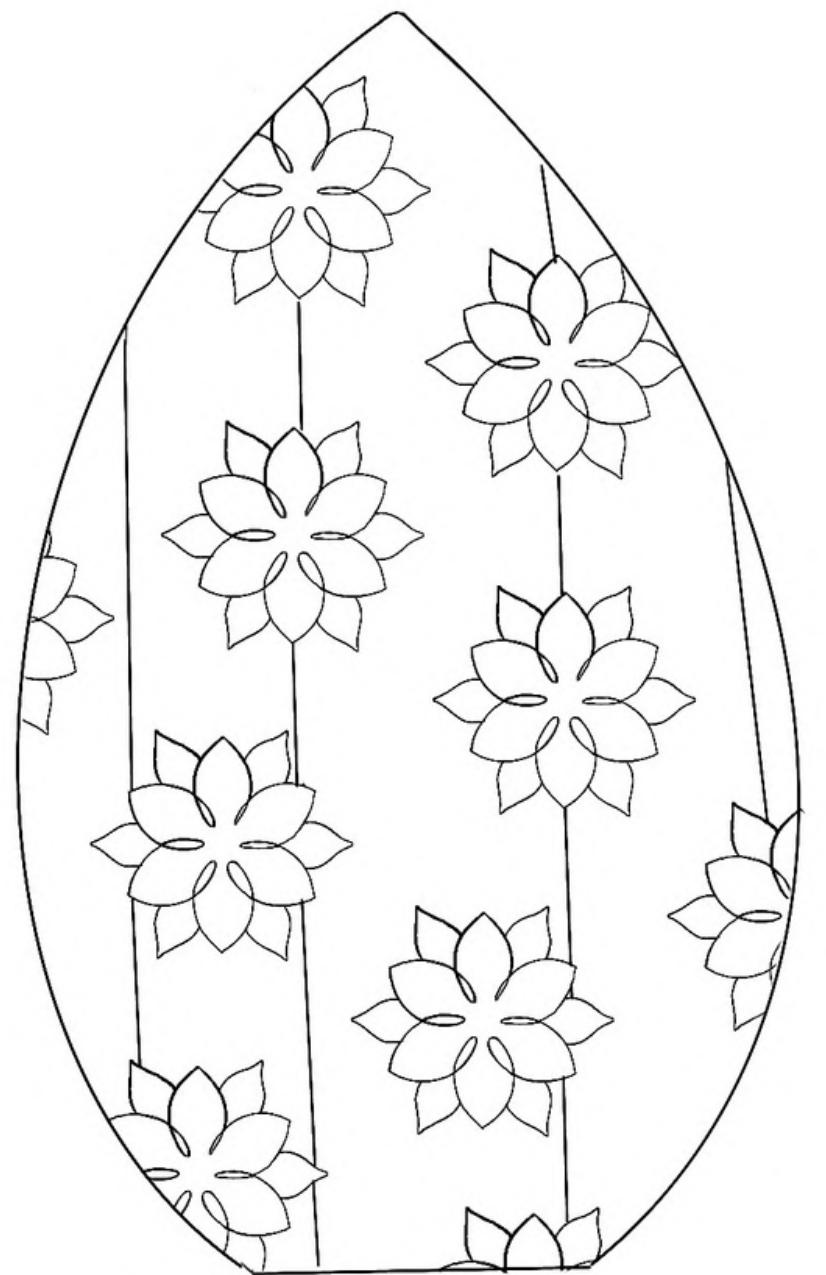


SKETCH 2



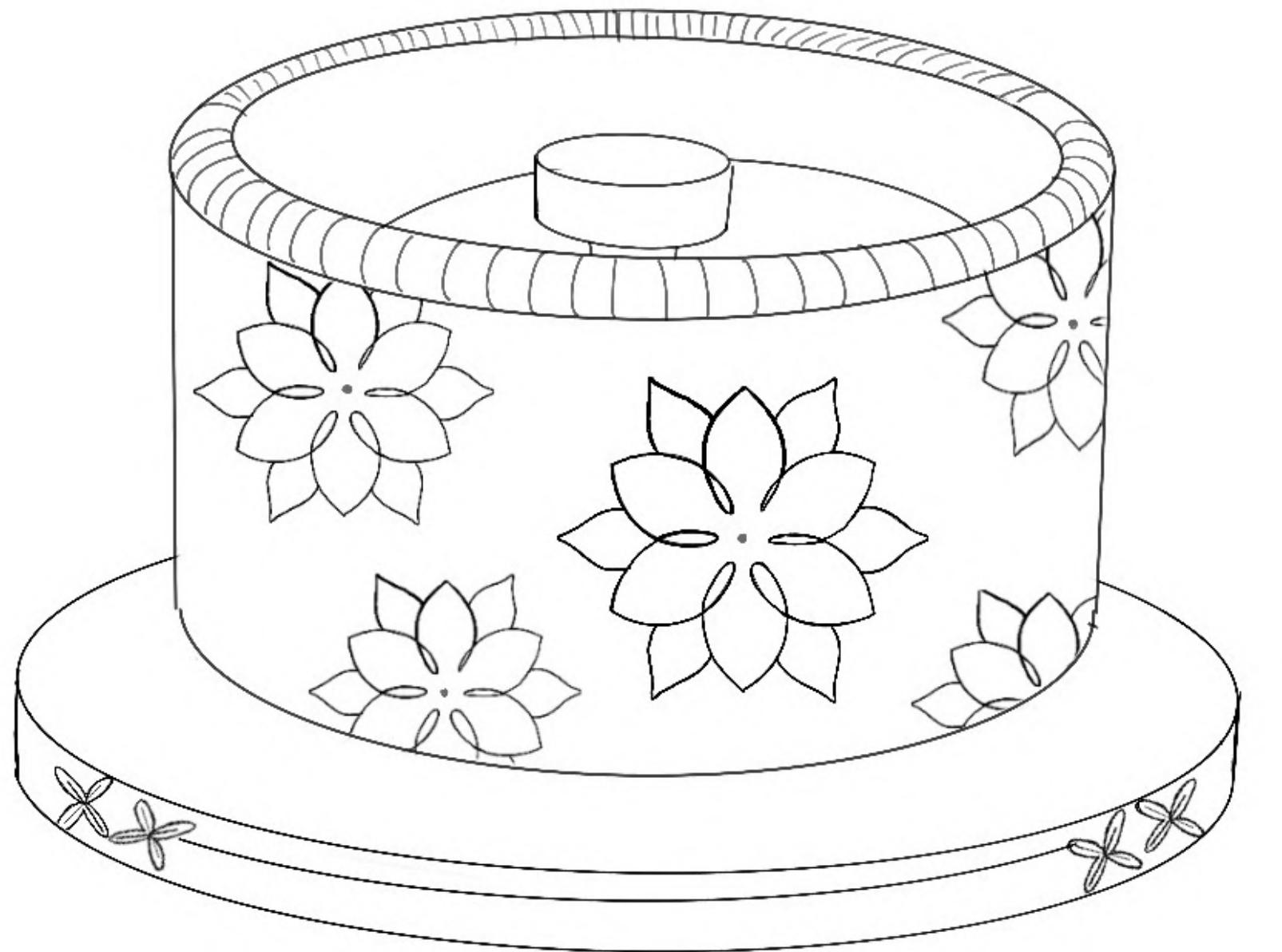
Ideations

SKETCH 3



Ideations

SKETCH 4



Ideations

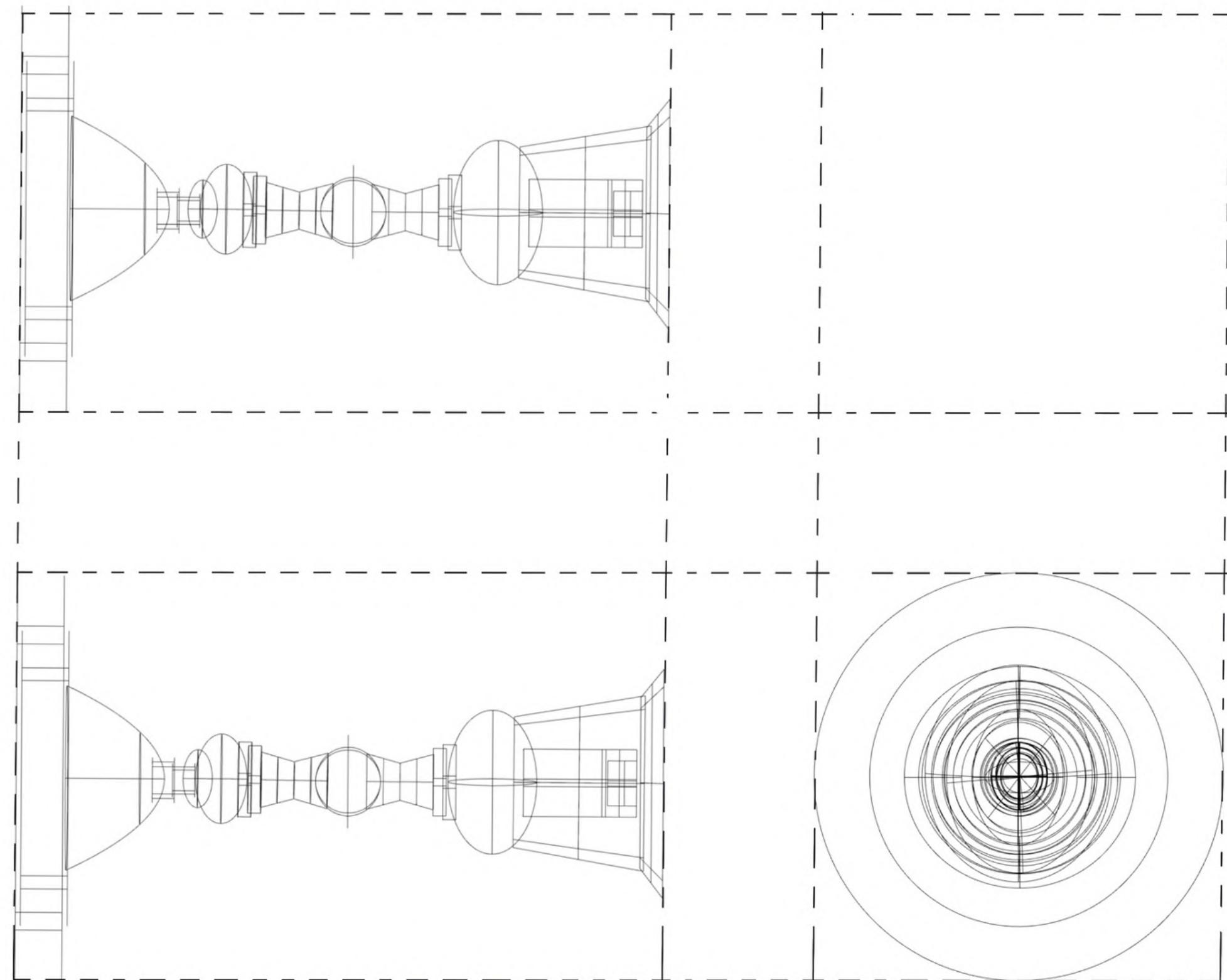
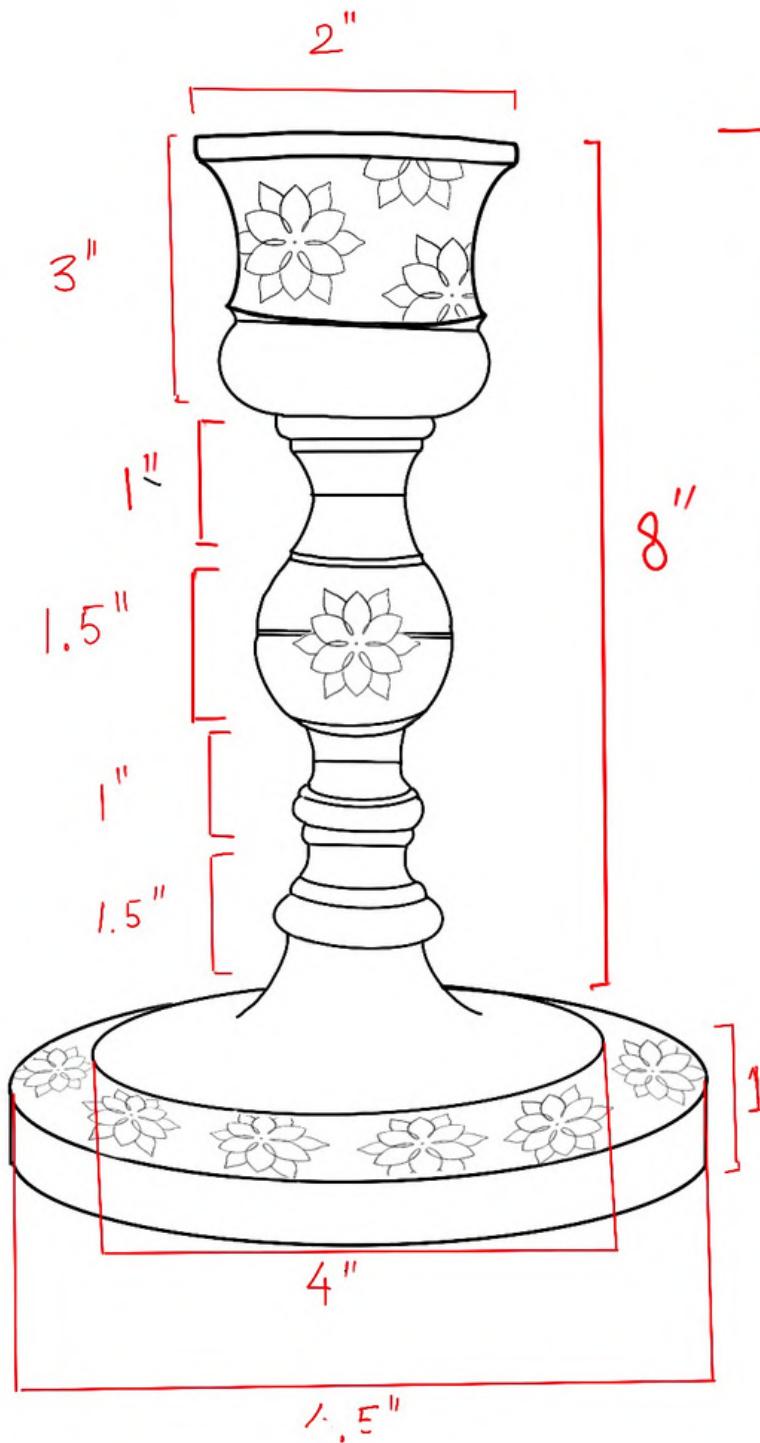
SKETCH 5



*Product: Candlestick Holder
3D Rendering*



*Product: Candlestick Holder
3D Rendering*

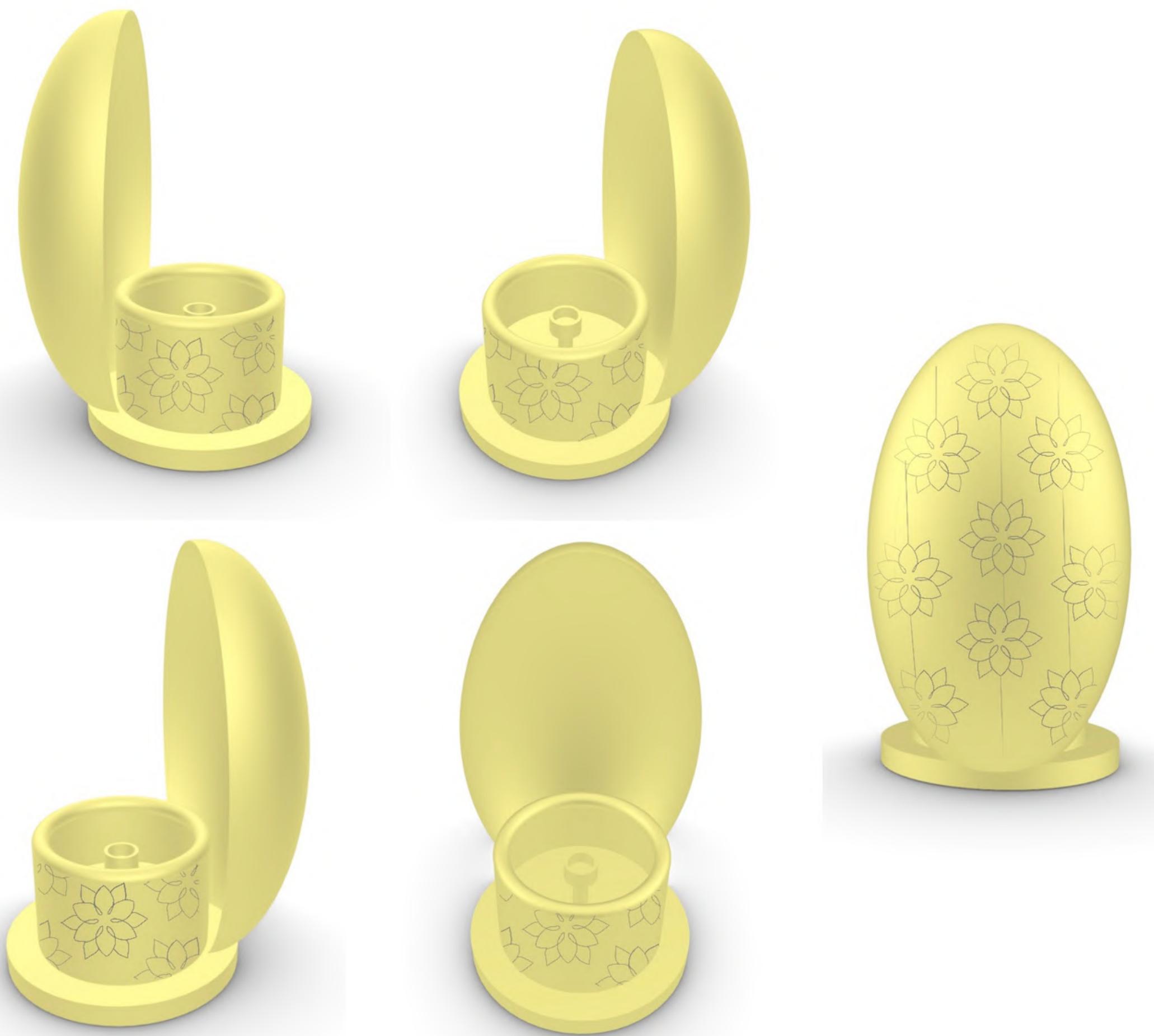


SPECIFICATION SHEET

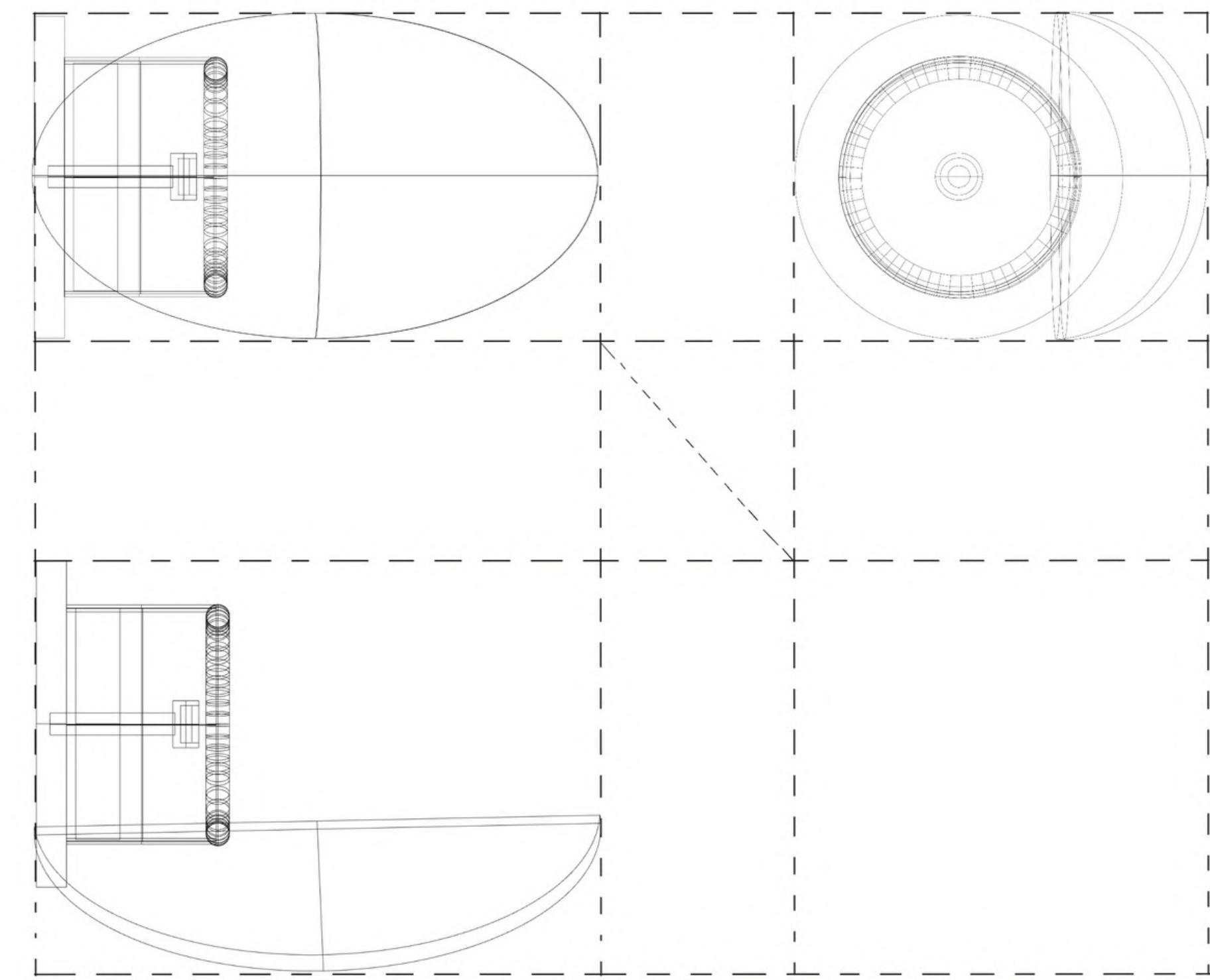
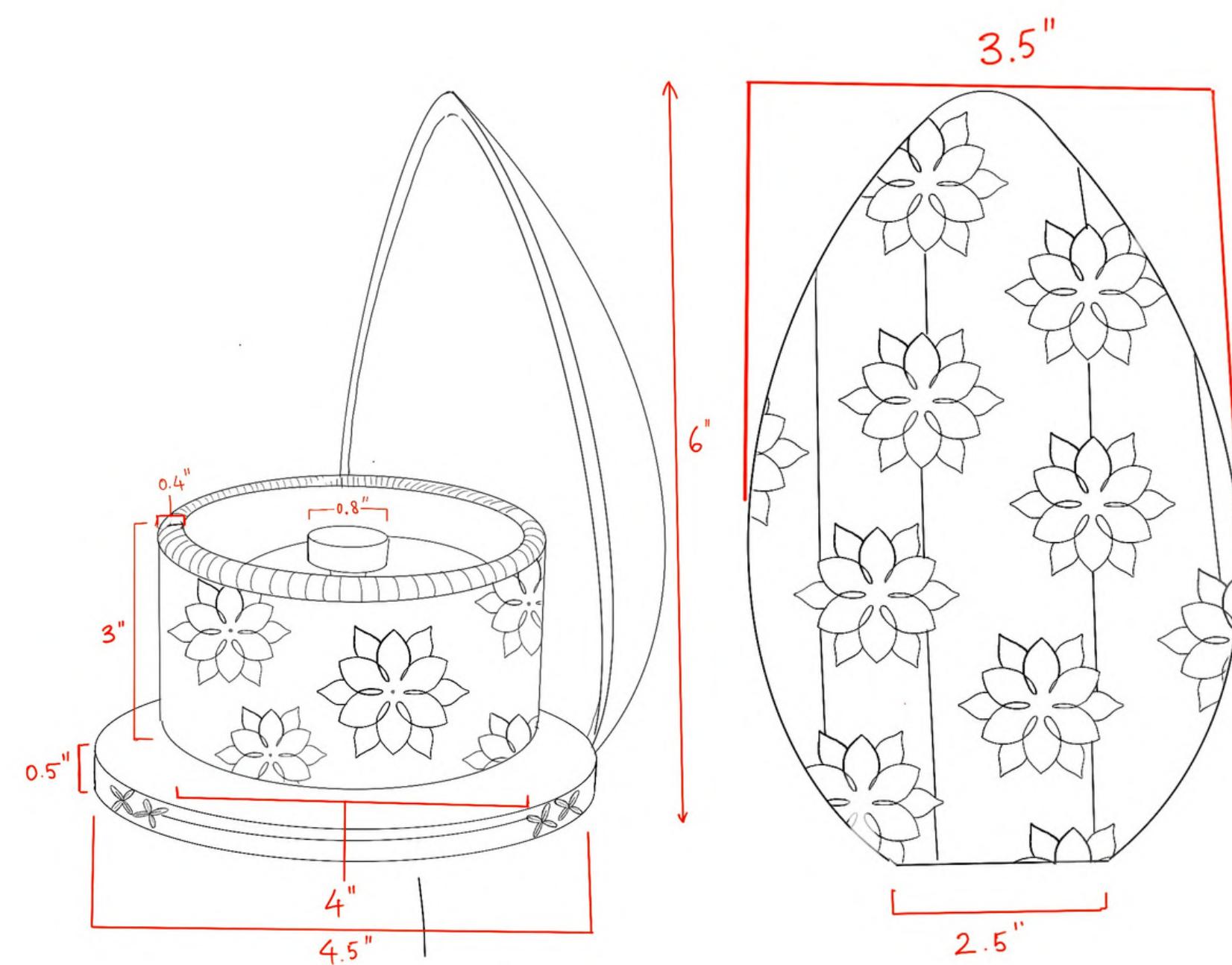
DATE	22/12/22	SEASON	S/S 23
DEADLINE	22/12/22	PRODUCT TYPE	Metal Repousse
NAME	Shambhavi Palni	PRODUCT NAME	Candle Holder
MATERIAL	DESCRIPTION	COLOUR	MATERIAL SWATCHES
<ul style="list-style-type: none"> • Copper Alloy • Brass Soldering 	Dimensions: L X B X D 9 X 4.5 X 4.5	 <small>METALLIC SHINNERS PANTONE® 20-0048 TPM Gold Coast</small>  <small>METALLIC SHINNERS PANTONE® 20-0058 TPM Copper Skillet</small>	 

Space: dining table accessories for commercial
hotel space

*Product: Earthen Lamp
3D Rendering*



Product: Earthen Lamp
Sizing and Technical Drawing



SPECIFICATION SHEET

DATE	22/12/22	SEASON	S/S 23
DEADLINE	22/12/22	PRODUCT TYPE	Metal Repousse
NAME	Shambhavi Palni	PRODUCT NAME	Combination
MATERIAL	DESCRIPTION	COLOUR	MATERIAL SWATCHES
<ul style="list-style-type: none"> Copper Brass Soldering 	Dimensions: 6 x 3.5 X 4.5	 <small>METALLIC SHIMMERS PANTONE® 20-0048 TPM Gold Coast</small>	

Space: dining table accessories for commercial
hotel space

PROTOTYPE
Shoot



PROTOTYPE
Shoot



REFERENCES

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