

Lifestyle Products in Glass and Steel

Project II

Guide

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Submitted by

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Acknowledgment

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Approval Sheet

The project entitled 'Lifestyle Products in Glass and Steel' by Darshan Rathod is approved for the partial fulfillment of the requirement for the degree of 'Master of Design' in Industrial Design

Guide.....

Chairperson.....

Internal Examiner.....

External examiner.....

Date

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1

Introduction

This project started with a wish of understanding materials and the way one could use ones hands to create an object, a product. The scale of product is very important and the first thought was of small products, things that one could hold.

Lifestyle products were chosen as a domain of work. This phrase provided the necessary direction to understand what exactly goes into defining the word lifestyle and hence lifestyle products.

The word lifestyle has different connotations and is often misinterpreted for hedonistic pursuits. This made a thorough understanding of the field very important. Probing further one realized that there is no single definition one could ascribe to the term. The definition existed within various shades, often overlapping and defining the product in various diverse ways

Lifestyle Products in Glass and Steel

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An initial overview of 'lifestyle' in various cultures within India and from places all over the world helped in building up an understanding of the relation between products and lifestyle. One could thus establish as to what how and when a product became a lifestyle object in different contexts. Diverse examples like the practices of smoking a 'Hookah' from North India to 'Tea Ceremonies' in Japan fall within different categories of lifestyle product definitions.

A user profile was defined within the local context. A study was carried out wherein it was sought to establish qualitative aspects of people's aspirations, desires and what they thought were lifestyle products. This again helped in building up a background that could be kept in mind while designing. Here it was surprising to note how articulate people really are, especially when they have to spend their hard earned money in buying these products.

Stainless Steel and Glass as Materials were explored. Both of these materials fit quite well in the contemporary scene. Glass has an interesting history dating back to the Phoenicians discovering glass by accident. From thereon glass techniques developed in the cradles of various civilizations. Glass as a material became an integral part of various cultures. No other material seems to have the richness of glass. Techniques and skills developed over a period of time and glass working became an art. In the current context though, glass is also mass manufactured.

Stainless steel as a material has a shorter history. Discovered as late as 1913 in Sheffield, England, Stainless Steel has become an integral part of our day-today lives. Current forms of Stainless steel have also been modified to have much more of a visual appeal. Combined with excellent manufacturing techniques this material has defined a category of exquisitely designed products that are contemporary and elegant.

Combinations of two materials are also a challenge. One has to contextually define proportions of the materials, and how they come together. Instead of a forced combination, the materials have to come together beautifully, complementing each other. At some times this is a tricky proposition. What happens when Glass and steel come together? Here glass was looked at in the form of a pure transparent material combining with stainless steel as another pure material. By pure the intention is to say that the form of the materials selected are quite basic, elementary and without any embellishments.

An exploration into the production and manufacturing techniques of these materials helped in grasping the possibilities that the materials could offer. A large number of times the category of lifestyle products being addressed falls into the batch production category. These products are not necessarily designed for mass-manufacturing but achieving industrialized manufacturing is the objective. Local industries offer quality control in manufacturing steel objects and these can be tapped for batch producing these items. Glass on the other hand is a bit tricky. Glass Blowing industries are located at Faridabaad but again production quality is a problem. On the other hand techniques like casting and cutting can be used.

With this knowledge some initial concepts were attempted. Some of these were even simple ideas that came to mind while talking to the user group. Where does one get inspiration? The urban kitsch is not directly an inspiring context to draw from. We are also not within any movement or style that has overwhelmed us so that we blindly follow it. Most of the ideas came from within, as responses, as questions to what the products are, what they mean.

2

An Overview of the Context

What is lifestyle? What is the difference between living an ordinary life and lifestyle? An overview of daily life in different traditional contexts reveals the relevance of various customs and the products related to them. With this in mind an enquiry was carried out probing contexts, both native and foreign.

2.1

Daily Life in the Indian Context

In the Traditional Indian context we see that in all the regions a large parts of the acts that people got involved in had strong roots in their beliefs and values. Social customs, community and religion were major contributors to the lifestyle of people.

Lifestyle Products in Glass and Steel

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Way of life and living was elaborately outlined and people respected these rules. From the individual to the family to the community, the roles were outlined.

Duties depending on the gender of the person were outlined. Traditional Hindu society laid down these set of rules and even today some of these are followed. The patriarchal society outlined duties that the male of the house had to follow. Be it early morning rituals or the daily pooja, these became integral parts of their routine and are practiced even today.

For instance in the Hindu families there used to be a lamp that had to be kept lit permanently. The lamp became the focus of attention of the household binding people together. Once in a day the family got down together for a prayer.

In the northern regions the practice of smoking a 'hookah' was prevalent. This object placed in a courtyard became the connecting thread of the community. Some actions also had symbolic meanings

Patriarchal Society

Family Importance
Children and Mother Respect
Husband
Guests are Respected

Activities

Daily pooja
Women Shringar
Attending the holy fire

Influences

Religion
Rites and Rituals
Ethical Standards
Continuity of Tradition
Education
Family Values
Social Obligations
Community

North – Uttarpradesh

Activities: Wake up at dawn
Chant while taking bath
Fast
Community meetings
Festivals – Holi,
Karvachowth, Dashera

Objects: Hookah as a center of
Community gatherings

East – Assam

Activities: Working in the fields, fishing, Market
Community get together in the
evening
Festivals - Bihu

Objects: Horai / a vessel for offerings
Akash banthi / a prayer for better times

West – Gujarat and Maharashtra

Activities: Washing feet when entering the house
Bride entering the house
Respect for guests and formalities while eating
Festivals – Haldi kumkum

Objects: Brass lamps and utensils, emotional value
passed on to daughters
Mat offered to guest while eating
Lamp which bride carries while entering the house
Bajot to keep idols during pooja

An Overview of the context
Daily Life and Lifestyle Products
in different cultures

2.2 Daily Life and Lifestyle Products in different cultures

Studying various cultures one could easily discern the attributes that a product should have to make it a lifestyle product. One of the most elaborate examples is that of 'Tea Ceremonies that were held In China and Japan. These took place within a set of rules. Harmony, serenity, and socializing were the objectives of this simple but elegantly beautiful ceremony. The setting was based on a system The space was configured using the module of a 'Tatami' mat. There were also variations according to the season. The host and guest had their place within these settings.



Lifestyle Products in Glass and Steel

An Overview of the context
Daily Life and Lifestyle Products
in different cultures

Country	Origin	Time and Place	Significance	Context	Utilitarian Products	Lifestyle Products
Brazil	Ritual	Angola	Combat-dance	Fights between the blacks		Berimbau – musical instrument
Mexico	Profession	Spanish settlers in 1500's	Culture and social status			Jeans
China		T'ang Dynasty 600 – 900 AD	Socio-economic status	Urban and Rural society	Straw shoes and ramie clothes for peasants	Cloth shoes and silk clothes for nobility
Japan	Ritual		Harmony, serenity, socializing, respect	Traditional and contemporary society		Tea ware in form of teapots and cups

From the point of view of lifestyle objects the simple things used for this ceremony are truly lifestyle objects. A simple cup passed on from one person to the other in the ceremony becomes a symbol of respect. The values associated with the object become more important than the value of the object itself.

Be it socio-economic status, respect or any other factor, all cultures show a variety of such products that have great significance and associations. What one can directly learn is that simple objects having an emotive or associative quality can become important and indispensable.

The Indian Context

Rites rituals beliefs and customs assume prime importance.

All actions carried out are based on some belief.

Objects related to the carrying out of these actions become an integral part of daily life and thus become important

3

A Study of the context and Owners of Lifestyle Products

3.1

Introduction

Qualitative responses were collected from a category of people. This category was predefined. A person belonging to the upper middle class, well established, and having a reasonably high-income were the parameters set. A reasonably good place to live in, but a non-hedonistic nature was also the criteria. An over indulgent person was definitely not the target. An advocate of the good life, a person of socializing nature who would invite people home and who would be friendly and amicable were some of the attributes desired. Also a person belonging to a small family or individual was desired.

This was only so keeping in mind the time one could allocate to ones own pursuits.

3.2

Questionnaire

Some questions were defined to probe into the thinking of these people. These were such that would elucidate the various aspects of a making of a lifestyle product.

What is the daily routine of the person? What activities do they get involved in apart from the day-to-day routine activities? This helped to understand the lifestyle of the person and defining the image of the owner

What do people possess and why? One could directly map out the level of indulgence that a person would get into.

How does one use these products and derive pleasure out of these products?

Here the questions were directed to enquire about products where the functionality of the product is not necessarily predominant

What is the décor of the house in which they stay? A probe into the Architecture and Interiors of their houses would help define their taste and level of awareness of current trends

How do they celebrate life? What are the pleasures of life,

Are the objects related to beliefs, behaviors, and attitudes? What are they?

What are their desires and wishes? Could they define a dream product?

What is the product they like most in their house? What is it that they like about the product? Does the product have any special physical attributes that make it unique?

Having these questions as an outline, interviews were carried out. These interviews revealed the qualitative aspects of lifestyle products. Surprisingly the notable aspects of these interviews were the level of awareness of the owners. These people were extremely articulate in defining their wants. Responses differed from person to person considering their backgrounds but roughly some kind of pattern could be established.

Owners are extremely articulate about their wants and needs.

Categories of lifestyle products emerge from the feedback given by the owners

Owners build an emotional relationship with the product

Associations of Time and place assume significance than the value of the product itself

A Study of the Context
& Owners of Lifestyle Products
User Interviews

3.3 User Interviews

Kavita Kapoor
Versova

Profile

Housewife - 32yrs
Nuclear family 2 kids
Husband works in software firm
Helps husband in designing
brochures

Habits

Travels abroad often
Visits Local Exhibitions
Shops in various local lifestyle stores

Statements

Buys Different, unique and rare objects
Displays and presents her collection to
visitors
Is not worried about cost
Objects that can be packed and stacked
up are preferred
Has the house in mind while
shopping
Does not believe in religious
associations of objects



Lifestyle Products in Glass and Steel

A Study of the Context
& Owners of Lifestyle Products
User Interviews

Rochelle Chhabra
Versova

Profile

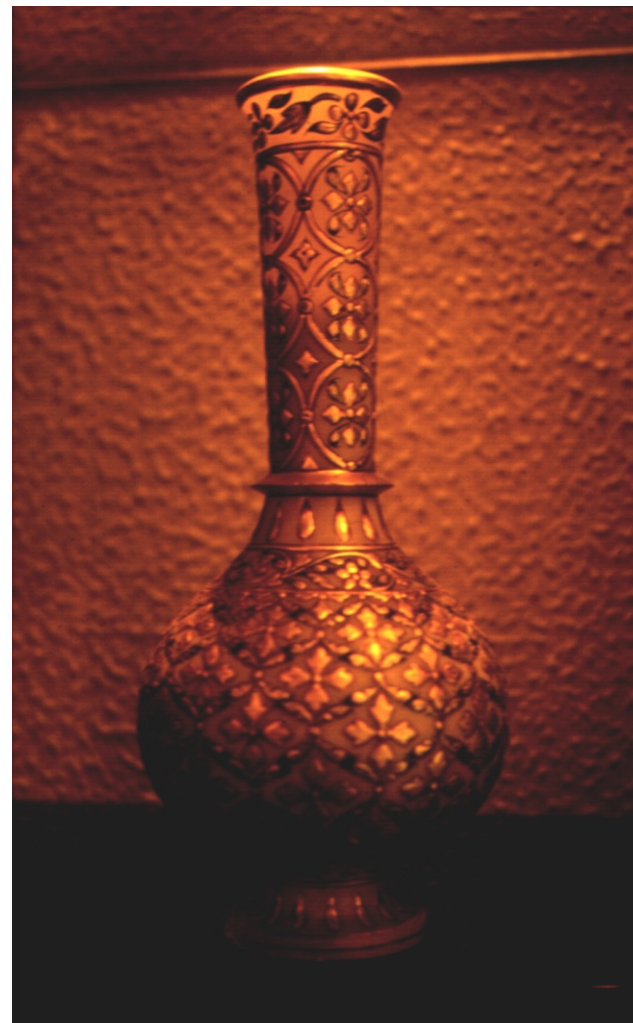
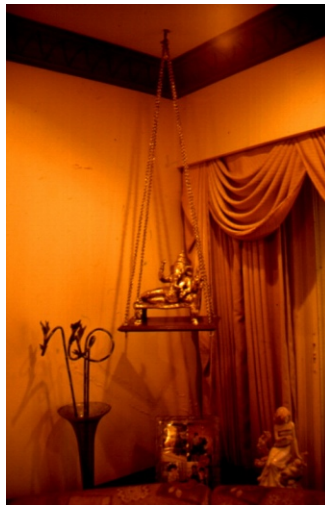
30yrs, Nuclear family with 2 kids
Works in the QA dept of a
Pharmaceutical company
Catholic but husband is a Hindu
Planning to relocate to Australia

Habits

Travels abroad often
Rearranges her house once a month
Visits Local Exhibitions
Shops in various local lifestyle stores

Statements

Buys souvenirs from places she visits
Will retain objects, which have
emotional value
Buys objects that catches her fancy,
90% of the time
Gifts are given to people according to
their taste
Leather and Bamboo are not strong or
durable materials
Artifacts brought from places like
Contemporary arts and crafts tend to
look old after a while
Likes to buy
products made from wood glass etc. that
are easy to maintain
Objects that have a regional (ethnic)
touch are preferred



Lifestyle Products in Glass and Steel

A Study of the Context
& Owners of Lifestyle Products
User Interviews

Kapil Saxena
Bandra

Profile

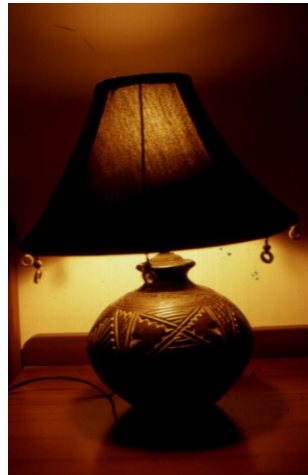
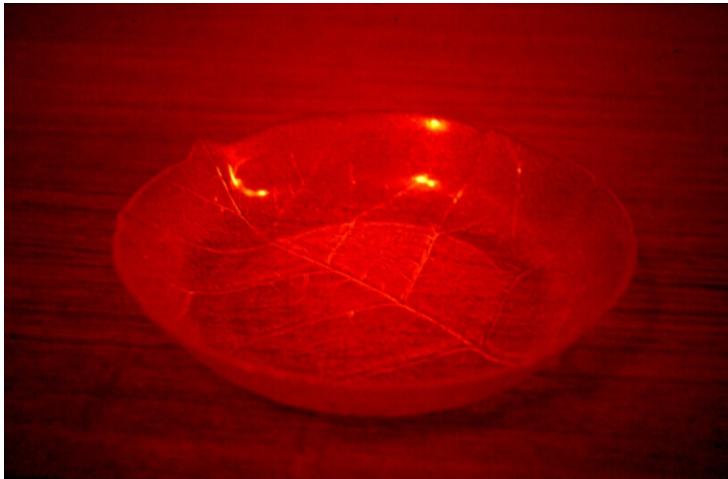
Retired, works as a consultant
60 yrs. Wife and two children
Dispersed family

Habits

Socializes, invites people over
Travels abroad

Statements

Likes simple and elegantly designed
products
Wants products that have a
contemporary identity
Likes ethnic and crafted products
Buying products depends on mood and
money
Always have the space constraint in
mind
Values workmanship, craft and finish of
a product
Checks if it is comfortable holding the
product
Traditional craft are preferred only if is
not too loud



Lifestyle Products in Glass and Steel

A Study of the Context
& Owners of Lifestyle Products
User Interviews

Kunal Edwankar
Worli

Profile

Design Professional. 30
Nuclear family
Wife and one child
Works as a consultant

Habits

Shops for clients.
Wants theme based products or products
that fit into a context.

Statements

As cost goes up, options go down.
(Commenting on the
availability of lifestyle products)
High-end quality is not easily available
Wants to deliver long lasting products to
his clients
(A warranty of 10 years)
Wants one-off pieces



Lifestyle Products in Glass and Steel

3.4 Conclusions

Lifestyle Products.

A display of Status and passionate indulgence.

Experience of using an object and possessing it.

Personal and intimate relation with the object.

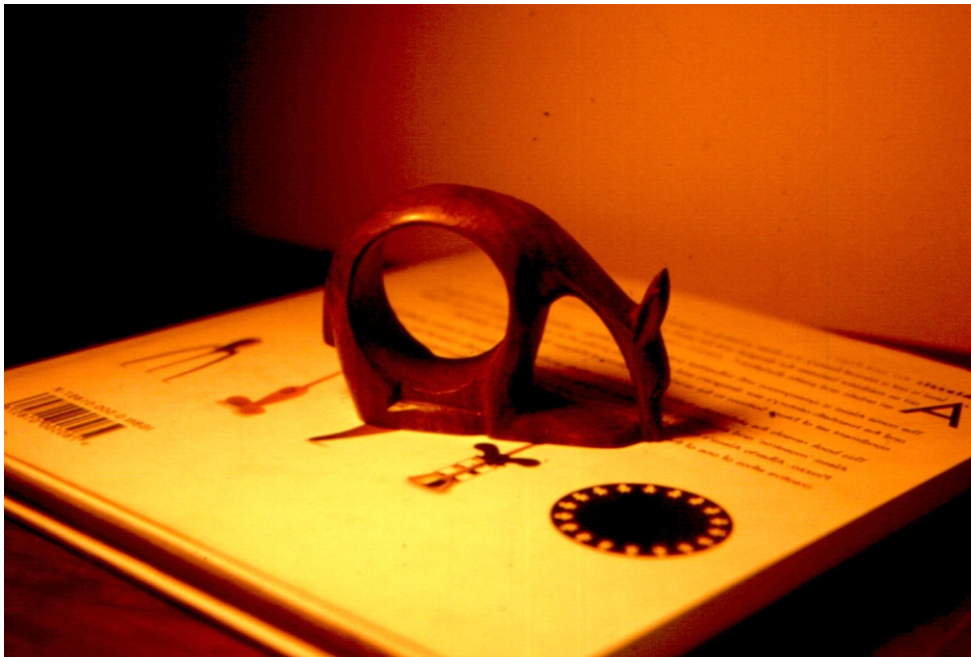
Association of objects to specific time, place and memories.

Desire to present, to share and appreciate

Users spend their hard earned money on products and value them.

Some users are well informed about the materials, finishes and demand quality in terms of design.

With the advent of different new media, users have been exposed to various cultures and this has expanded their needs.



4

Lifestyle stores and market Study

4.1 Market Study

Although a number of products are brought on trips to different places, a Metropolitan city like Mumbai has sources where one could find these objects. A place like Mumbai also has numerous well to do people who would indulge in buying these products. From large 'Lifestyle stores' to places tucked away in some part, these stores almost hold treasures of exquisitely designed Lifestyle products.

What are the products that these places stock and how much circulation and sales are registered? What are typical user responses to these products? What is the image that the store is trying to project?



Lifestyle Products in Glass and Steel

With these questions in mind, a few of these stores were visited. Each store almost defined a category in its own.

4.2 Lifestyle Stores

Pallazio at 'Crossroads' displays a range of products from the extremely expensive to the other objects that are brought by upper middle class. Imported products relating to wine consumption, exquisite pen sets, crystal and timepieces made of glass are displayed here. Most of these are batch-produced or are one of a kind.

However, during the course of the interview it seemed as if the products like the crystal and glass had maximum sales as these fall into an affordable category. The other class of objects appeared to be a tease, a stimulant for the senses, and of a lifestyle, which only a few could afford, but which all could aspire to achieve. The products displayed range from anywhere between Rs 1500 (Branded pens) to Rs 10000 (Imported Wine Decanters and accessories). There are also one-off pieces that almost cost beyond Rs 25-30000 and more.

'Bungalow Eight' is a 'Lifestyle store' that houses products that have been designed in India by trained designers. Again the image that the store tries to project is of a place where one could acquire exquisite objects. Some of the products made using various materials like stone, wood, and different metal alloys define the category of products that are being addressed in this project. Here a buyer can directly connect to what the designer was thinking.

People could also look for objects considering the decor of their house or objects that would go with a certain theme. Some of these products also have a craft touch although they would be following batch-manufacturing techniques. Product prices range from Rs 500 (Stapler) to Rs 2000-3000. This particular store targets people who would purchase gifts.

Contemporary arts and Crafts' is an older store having a couple of outlets in Mumbai. As the name suggests this store also displays products that have an ethnic craft touch to them. This store targets the buyer who does not want to spend exorbitantly. Generally simple products displayed like bowls, plates and so on cost Rs 100 a piece to Rs 500. It also displays some exclusive products that are on the costlier side.

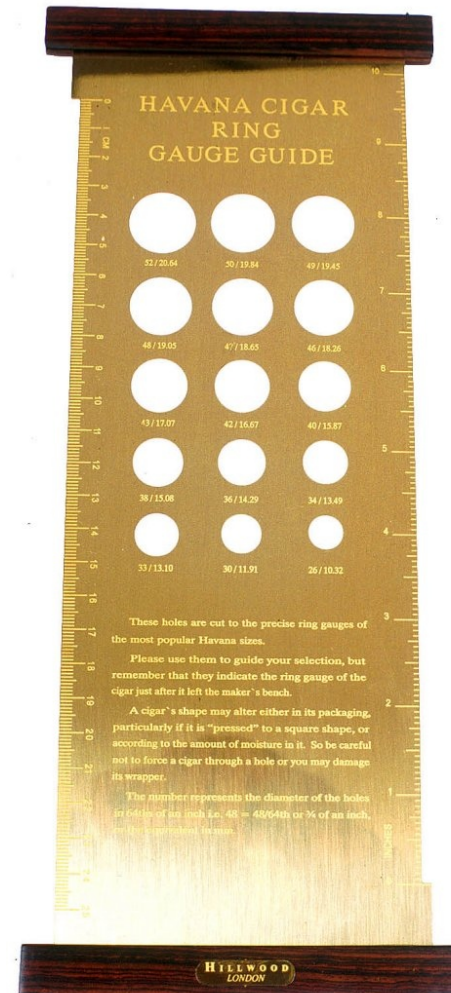
The 'Lifestyle store' also showcases products made by 'Magppie'. These are made of stainless steel meant for residential use and are setting the trend for quality, mass-manufactured, designed lifestyle products.

4.3 Conclusion

The existence of these stores substantiates the idea of taking up such a project. With new stores coming up, a strong market is building up which allows people access to quality, designed products. People have access to a range of products both from the international as well as the local market. Stores like bungalow eight commission designers to create these lifestyle objects for them. With these kind of systems in place one could exploit the possibility of making this kind of a project a commercial reality.

A well-defined market exists for the lifestyle products category that can be tapped.

New stores opening up are displaying quality objects that define and set the benchmark for quality lifestyle products



5

What is a Lifestyle Product

5.1

Introduction

From a study of the context some inferences have been drawn and an attempt has been made to understand the various aspects of lifestyle products.

What kind of products, gets into the lifestyle product category? What are the associations' people have with such products? What are the qualities of these products that make them stand apart? Who owns these objects? With these questions in mind a categorization has been done of the various aspects of lifestyle products. What emerges is not a single definition, but various shades within which such products exist.

Lifestyle Products in Glass and Steel

5.2

Possessor Owner. Persona.

Owners of the objects are people with taste, people who want to exhibit and make a statement of the way they live. They admire and adore this cocoon they have created and have a sense of pride possessing it. Some are quite articulate in defining their wants or for finding objects that fit in the context that they have created for it. Some buy the objects and later make sacrosanct spaces to display these objects.

Owners create a collage that reflect their personalities, ethnic, contemporary, modern, eclectic... One can directly build a persona of the possessor by just taking a look at their houses.

5.3

Scale and conventions

The scale of objects being addressed here varies from objects that fit in your palm, like some jewelry, to larger objects like a flower vase. Objects that you can hold, clasp, grasp, touch and feel and interact with. People have a conventional image of lifestyle and objects associated with it that are considered as lifestyle products.

Lifestyle and lifestyle products are signifiers and have meaning and associations to it. They are reflections of the beliefs, profession, religion, customs of a place, habit formation etc.

What is a Lifestyle Product Cultural Influences

These products emerge specifically in relation to rights and rituals, social obligations, ethical standards, tradition, social and educational background, family values and habits of each individual.

5.4 Cultural influences

Culture plays an important role in the birth and evolution of a product. Ordinary products sometimes reach the state of a lifestyle product in course of time. Tea ceremony in Japan has more of cultural connotations which is not so in other countries. The event of having tea and its transformation into a ceremony has given birth to many specific products associated with the ceremony. The products used during the event celebrate the host's social status and concern.

Lifestyle Products in Glass and Steel





What is a Lifestyle Product
Ceremonial/ Symbolic / Ritual
Habit Related (Indulgent)

5.5

Ceremonial / Symbolic /
Ritualistic

An immediate derivative of the culturally influenced products is the ceremonial, symbolic and ritualistic products. These products vary from its ethnical and religious backgrounds. The welcoming ceremony of a bride to the grooms' house has many products, which are usually lifestyle products, and is a signifier of the social status though their utilitarian value and scale of use is very limited.

5.6

Habit Related (indulgent)

Every place and culture induces habits that are set in their people's everyday life. These products may be used in friends or social

Lifestyle Products in Glass and Steel

What is a Lifestyle Product Possession

Circles. Wine from France, *hookah*, *paan* and *supari* from India and cigars from Cuba all fall in this category. They have a whole range of accessories and exclusive products dedicated for these habits. Humidors, cigar gauges, decanters, wine tasters and corkscrews are exclusive products designed for these habits.

5.7 Possession

Some products become lifestyle products because of someone's possession. People follow such trends and similar products or products of the same make rise to the level of lifestyle products.

Lifestyle Products in Glass and Steel





What is a Lifestyle Product
Direct, Personal Relation
Icons

5.8 Direct Personal Relation

Associations with products are made when they are actually put to use. The owner builds a relation with these products. Jewelry and bangle boxes are such products.

5.9 Icons

Some products stand as icons over time and help the owner make direct and recognizable statements to others about his lifestyle. They also exhibit the person's knowledge of the products from different societies and cultures that stand as icons. Some of these are very common icons like a 'Zippo' lighter but a 'decanter' made by a French manufacturer is an exclusive icon.

Lifestyle Products in Glass and Steel

What is a Lifestyle Product Profession

What makes these objects icons are associations with durability, trustworthiness, aesthetics, form and excellent functional qualities. All of these combine to form a very strong image. These objects are also portrayed as objects that can buy you a 'lifestyle' and place you in the select few of a class who have a desire of owning beautiful objects and lifestyles.

5.10 Profession

Some products and gadgets are used to project the persons or company' image to others. These products could fall in to the lifestyle product category due to the cost exclusivity or the technological edge associated with it, which makes it impossible for all to own it. The use of PDA's expensive mobile phones, Mac machines etc are examples of these.

Lifestyle Products in Glass and Steel



What is a Lifestyle Product
Cross cultural products
& the influence of media

5.11 Cross Cultural products and the influence of media

Products transcend cultural barriers and appeal to people across the world. These influences have been strengthened considerably in the present context with the advent of the Internet and cable TV and thus access to various cultures and lifestyle. Wind chimes which have a strong cultural connotation have reached the common mans homes crossing the cultural barriers and religious associations it once carried with it

Lifestyle Products in Glass and Steel



What is a Lifestyle Product
Time & Place

5.12 Time and Place

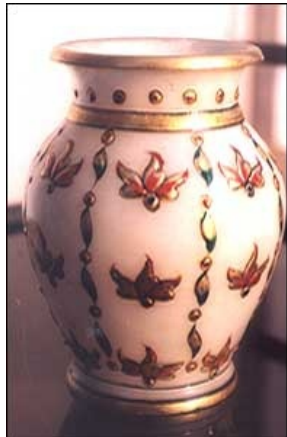
Products have relevance with respect to time, more importantly, time and place. Some objects reveal directly the period or age of their origin. They tell tales of the culture they belong to and the lifestyles of the people they belong to.



Lifestyle Products in Glass and Steel

5.13 Antiques and indirect lifestyle products

Objects especially from pre-industrialized times reveal the level of craft, understanding of detailing, materials, technology and the finesse with which the craftsman executed the work. These objects behave differently when placed in different contemporary contexts. In the first instance, they are objects of appreciation that the user feels towards them. The owner usually displays these objects as treasures. The owner would have his own stories and memories about the object, where he would have obtained it from and such. These objects though being lifestyle objects in one sense of the word may not have any utilitarian value today. These can be termed as antiques.



What is a Lifestyle Product
Timelessness



In the second instance some of these objects find secondary use in the houses of their owners. In some cases they would be used differently from their original intended use. An antique glass may be used for keeping pens and an old Kerala chest used as a table in the sitting room fall under this category.

5.14 Timelessness

Some products have an intrinsic timeless appeal. The qualities that determine this vary. One of the qualities is associated with the function of the product. Some functions are essentially existent over any time period. A flower vase and a chair are utilities that fall in any time frame or within a large time frame. Thus these become functionally timeless, and the value of the object increases over time.

Lifestyle Products in Glass and Steel

What is a Lifestyle Product
Temporary Lifestyle Products

Materials also have a timeless quality. Wood, stone and glass have a timeless appeal and they work well over any period without stagnating. Products are also timeless by design. They can appeal to people over different eras. Traditional artifacts made from Padauk in Andaman have this quality. Noticeably, the more simple and elegant they are, the more their appeal over time.

5.15
Temporary Lifestyle
products

Fashion wear and accessories are primary examples of temporary lifestyle products. Most of these are fads or trends that cannot survive the next arrival on the market. The possessor is usually a well-to-do person who invests in different objects that are necessarily the latest,

Lifestyle Products in Glass and Steel



What is a Lifestyle Product
Material & Lifestyle Products

Newest things available to prove his uniqueness. A lot of these are also custom designed for the possessor.



5.16
Materials and lifestyle
products

The use of exclusive and expensive materials like gold, platinum, sterling silver, pewter etc make a product exclusive. Some materials like wood have a timeless appeal and hence figure in all forms of lifestyle products. The value of an ordinary material like stone, steel or glass can be enhanced by 'good design'.

Lifestyle Products in Glass and Steel



What is a Lifestyle Product
Technology led products
Craft

5.17 Technology led products

New technology helps in developing new lifestyle products. A Mackintosh computer is a statement of the user's preference for not only a better performing machine, but it also has value as a lifestyle product. These machines are a visual statement and are examples of a high order of carefully designed products. A Bang-Olufsen music system reeks with hi-tech but on the face it is subtle, elegant, sophisticated and is an object only for the truly indulgent.

5.18 Craft

A touch of Craft in the contemporary context or craft dating back to antiquity has great

Lifestyle Products in Glass and Steel

What is a Lifestyle Product
Cost Exclusivity



value as lifestyle objects. Craft is a personal signature of the designer-creator and one can directly communicate with his thoughts through the object while he was creating it.

5.19
Cost Exclusivity

Most of the lifestyle products are by and large in an upper cost category. Most of them attract only serious buyers who would value and treasure these objects or who would gift them to people they think deserve them and who would cherish these objects. What makes these objects expensive is the attention to detailing, materials, and the exclusivity of the object. Contrary to the rule however, even trinkets collected from some wayside place can become statements when placed in a different context.

Lifestyle Products in Glass and Steel

Inexpensive objects thus become invaluable objects imparting joy. Small glass lanterns brought off the street are iconic of a time and yet don't cost anything. At the same time some objects can be made to look expensive with clever use of materials and craft.

5.20 Associations

The owner builds an emotional relationship with the objects associating them with memories, time and place. He also learns from his possessions. The more he sees them, the more he learns to appreciate.

5.21 Tactile Associations

Owners develop tactile associations with the products. Touching and feeling the surfaces, the form, and coming in to direct contact with the objects awakens the owner's emotions and connects them to their memories. The experience is shared between the owner and the object. The person thus develops an indirect affection with the object.

5.22

Visual Stimulants

Placed in context, these objects punctuate the surroundings. Here we have assumed a contemporary context. Tastefully done up spaces or environments that have their own impact on the user are the canvas for these objects. Placed in unique positions, proudly displayed, these objects are what the person indulges in. They function as reminders of a level of elegance to the possessor.

5.23

Conclusion

There is no single definition for a lifestyle product.

What becomes a lifestyle product depends on an individual's choice and what he or she chooses to buy.

The kind of person who does get into defining a lifestyle product is a person with taste, a person who takes part in the good things in life and celebrates life.

6

Glass and Stainless Steel.

A personal interpretation of the materials

6.1

Glass

Glass is a mystery. It is an object of intrigue. A solid frozen material that has depth. Peering into it is looking into another world. Hold it close and you will discover, wonder...

It is a frozen fluid. Cold to the touch. Glass needs to be held. It needs to be cared for. Glass lends itself to solid stoic forms. At the same time it also freezes to fluid flowing forms.

Glass also reminds one of rich colours. Colours unattainable in other materials. Colours that can be linked to tradition. Forms that can be linked to tradition, cultures, and the creative richness of these cultures.

The surfaces are smooth and are an exhibition of perfection. At the same time it can also be sharp. Visually the material though transparent appears to be quite heavy. Objects and stories can be trapped in glass.

In warm light glass takes a warm character. It also plays with light like no other material. The form of the glass from the simplest to the most complex crystal form shows an amazing play with light. Light passes through the body of the glass object illuminating the inside and exits the object completely transformed. The light assumes the character of the glass and interesting shadows and patterns are created, both within and outside the object.

6.2 Stainless Steel

The mention of steel evokes the image of strength. Early images associated with steel are that of refineries, of post independence India and the spirit of freedom and self-dependence. It is a material that has become an integral part of our day-to-day life. From mundane day-to-day objects (mainly in the kitchen) that are present in our houses to the steel we see in engineering applications all around.

Steel has also evolved into a sophisticated material. Of late, finishes that can be achieved with the material have been explored by designers to create objects of immense beauty.

Steel has a certain coldness about it that makes it look sophisticated. Strength being the primary virtue, the material itself defies this character by its appearance. The reflective surface is almost impassive at sometimes. On the other hand it is as if it is observing the world around. It is like the reflection that we see in person's eyes. Reflections combined with the form create an interesting effect, almost like a motion picture. The images get distorted and are played with. Another world is created, that exists within the depth of this surface. The material can be made to look fluid or rigid by the way the form is treated. Finish, form and simple ideas can convert this material in to elegant, pleasant objects.

7

Organizational and manufacturing infrastructure and other things...

Glass

7.1

What is Glass?

Glass is a mixture of a number of metallic silicates, one of which is usually that of an alkali metal. It is amorphous, transparent or translucent. It may also be considered as a solidified, super-cooled solution of various metallic silicates having infinite viscosity. Nearly all-commercial glasses fall into one of six basic categories or types. These categories are based on chemical composition. Within each type, except for fused silica, there are numerous distinct compositions.

7.2

Types of Glass

1. Soda-lime glass is the most common (90% of glass made), and least expensive form of glass. It usually contains 60-75% silica, 12-18% soda, 5-12% lime. Resistance to high temperatures and sudden changes of temperature are not good and resistance to corrosive chemicals is only fair.

2. Lead glass has a high percentage of lead oxide (at least 20% of the batch). It is relatively soft, and its refractive index gives a brilliance that may be exploited by cutting. It is somewhat more expensive than soda-lime glass and is favored for electrical applications because of its excellent electrical insulating properties. Thermometer tubing and art glass are also made from lead-alkali glass, commonly called lead glass. This glass will not withstand high temperatures or sudden changes in temperature.

3. Borosilicate glass is any silicate glass having at least 5% of boric oxide in its composition. It has high resistance to temperature change and chemical corrosion. Not quite as convenient to fabricate as either lime or lead glass, and not as low in cost as lime, borosilicate's cost is moderate when measured against its usefulness. Pipelines, light bulbs, photochromic glasses, sealed-beam headlights, laboratory

4. Aluminosilicate glass has aluminum oxide in its composition. It is similar to borosilicate glass but it has greater chemical durability and can withstand higher operating temperatures. Compared to borosilicate, aluminosilicates are more difficult to fabricate. When coated with an electrically conductive film, aluminosilicate glass is used as resistors for electronic circuitry

5. Ninety-six percent silica glass is a borosilicate glass, melted and formed by conventional means, then processed to remove almost all the non-silicate elements from the piece. By reheating to 1200°C the resulting pores are consolidated. This glass is resistant to heat shock up to 900°C.

6. Fused silica glass is pure silicon dioxide in the non-crystalline state. It is very difficult to fabricate, so it is the most expensive of all glasses.

7.3

Glass working

Glass working is art on the one hand and pure science on the other. This material has been around for a long time. Different sources place the discovery and use of glass in different times and places. The use of this material is found in Ancient Egypt, Rome, Venice and West Asia. Over a period of time techniques were developed. Initial techniques were more of a nature of craft like casting. Modern manufacturing allows mass production of glass in an industrial scenario.

Glass working tends to be of the following nature.
Mass production. Batch production Craft.

Glass working processes

Blowing

In this process, molten glass is gathered on the end of a hollow tube and blown like a bubble into a hollow mould or freely shaped with simple tools. Bottles are a typical example of glass blowing

Casting

The generic name for a wide variety of techniques used to form glass in a mould.

The molten glass is poured into mould and allowed to cool slowly. Typical examples are mirrors and lenses

Core forming

The technique of forming a vessel by trailing or gathering molten glass around a **core** supported by a rod. After forming, the object is removed from the rod and annealed. After **annealing**, the core is removed by scraping.

Cutting

The technique whereby glass is removed from the surface of an object by grinding it with a rotating wheel made of stone, wood, or metal, and an abrasive suspended in liquid. Also used are **copper-wheel engraving, carving, and wheel engraving**.

Pressing

In this process, molten glass is pressed into moulds. The pressure may either be applied manually or by mechanical means. The process is adopted for ornamental articles and hollow glass articles

Drawing

This process consists in simply pulling the molten glass either by hand or by mechanical equipment. An iron bar is dipped sideways into the molten mass of glass. It is lifted up horizontally and in doing so it catches a sheet of molten glass. This sheet is then allowed to pass over a large rotating roller. The roller helps the molten glass to spread in the form of a thin sheet.

Rolling

There are two methods. In one method the molten glass is passed between heavy iron rollers and flat glass plate of uniform thickness is obtained. In another method, the molten mass of glass is poured on a flat iron-casting table and it is then turned flat with the aid of a heavy iron roller.

Spinning

In this process, the molten glass is spun at a very high speed by a machine to form very fine glass fibers. This glass has tensile strength equal to that of mild steel. It does not fade, decay or shrink. Acids and fire do not attack it. It is used for providing insulation against heat, electricity and sound.

Annealing

Glass, after being manufactured has to be cooled down slowly and gradually. This process of slow and homogeneous cooling of glass articles is known as annealing of glass. This is an important process because if the articles are allowed to cool down rapidly, the superficial layer of glass cools down first, as glass is a bad conductor of heat. The interior portion remains relatively hot and it is therefore in a state of strain. Hence such glass articles break to pieces under very slight shocks or disturbances.

Two methods used for annealing are

Flue treatment

A long flue is provided and there is a gradual decrease in temperature from one end of the flue to another. The red-hot articles pass through this. This method is used for large-scale production.

Oven treatment

The red-hot articles are placed in ovens in which the arrangement is made to control the temperature. After the articles are placed, the temperature is slowly brought down. This method is useful for small-scale production.

7.4

Local Glass manufacturing

Large number of glass blowing industries is present in India at Faridabad. At the same time companies like 'Haldyn Glass Gujarat' and Borosil manufacture glass articles on a large scale. The designer also has access to various small craftsmen who practice simple techniques like cutting.

The present day glass making industry in India revolves around a range of items from bottles, bangles, beads and glasses, to laboratory glass and scientific glasswares. The glass industry in the country comprises about 50 glass units in the organized sector and about 500 small scale glass units, who together produce a diverse range of products from marbles and mirror to glass containers, sheet glass, vacuum flask, laboratory glasswares and fibre glass. The organized sector in this industry consists of 10 units of sheet glass manufacturers, 10 units of vacuum flasks/refills manufacturers and another 5 units in laboratory glassware manufacturing. The country at present is self sufficient in every aspect of glass and glassware manufacture and production, although glass is slowly losing ground to plastic. There is a need for modernization in the glass industry, to make it “internationally” competitive and technologically innovative.

India is world famous for glass beads. Banaras is the main center for the production of glass beads with Purdilpur, known for its black glass beads not far behind. Ferozabad, in Uttar Pradesh, is known for the production of glass bangles and utilitarian glasswares. An entire community of skilled craftsmen is located here and is engaged in making high quality glassware. Ferozabad produces fragile and lightweight glass beads. Traditional ornate paintings from Tanjore, depicting deities are made on glass, using gold and are extremely popular the world over.

7.5 History of Steel

In 1913, when steel researchers were experimenting with different types and qualities of alloys, Harry Brearley, in Sheffield, England, discovered stainless steel. While experimenting with increasing levels of chromium, he found out that at over 12 percent chromium, the steel gained an exceptional resistance to acid corrosion. It was his work that found the foundation for the development of a range of steel grades particularly resistant to corrosion.

By the late 1920's, two types of stainless steel had been found to be most versatile and useful; martensitic stainless steel (chromium content of 13-18 percent) and austenitic stainless steel (18 percent chromium and 8 percent nickel). Today, stainless steel is a generic term given for a group of corrosion resistant steels containing a minimum of 10.5 percent of chromium, which creates a passive, self renewing film of chromium oxide around the steel at the atomic level, thereby impeding the iron from rusting

7.6 What is stainless steel?

Stainless steel is the generic name for a number of different steels used primarily because of their corrosion resistance. All stainless steels share a minimum percentage of 10.5% chromium.

All stainless steels share a minimum percentage of 10.5% chromium. Chromium is always the deciding factor, although other elements, particularly nickel and molybdenum, are added to improve corrosion resistance. The success of the material is based on the fact that it has one unique advantage. The chromium in the stainless steel has a great affinity for oxygen, and will form a film of chromium oxide on the surface of the steel at a molecular level. The film itself is extremely thin, about 130 Angstroms and one Angstrom is one millionth of a centimetre. This layer is described as passive (does not react or influence other materials), tenacious (clings to the layer of steel and is not transferred elsewhere) and self-renewing (if damaged, more chromium from the steel will be exposed to the air and form more chromium oxide). This means that over a period of years a stainless steel knife can literally be worn away by daily use and will still remain stainless.

In many cases stainless steel is the most cost efficient solution. Although producing a component or fabrication in stainless steel will often be more expensive than using ordinary steel due to the higher cost of stainless steel and expertise required during processing it is the better life cycle costs of stainless steel that make it such an attractive material. Through the use of a stainless steel a significantly longer service life and less maintenance costs for equipment can be achieved. Furthermore, stainless steel is fully recyclable and has a high scrap value on de-commissioning.

7.7 Grades

Ferritic grades

Ferritic stainless steels are magnetic non heat-treatable steels that contain chromium but not nickel. They have good heat and corrosion resistance, in particular sea water, and good resistance to stress-corrosion cracking. Their mechanical properties are not as strong as the austenitic grades, however they have better decorative appeal.

Martensitic grades

Martensitic grades are magnetic and can be heat-treated by quenching or tempering. They contain chromium but usually contain no nickel, except for 2 grades. Martensitic steels are not as corrosive resistant as austenitic or ferritic grades, but their hardness levels are among the highest of the all the stainless steels.

Austenitic grades

Austenitic stainless steels are non-magnetic non heat-treatable steels that are usually annealed and cold worked. Some austenitic steels tend to become slightly magnetic after cold working.

Austenitic steels have excellent corrosion and heat resistance with good mechanical properties over a wide range of temperatures.

There are two subclasses of austenitic stainless steels: chromium-nickel and chromium-manganese-low nickel steels. Chromium-nickel steels are the most general widely used steels and are also known as 18-8(Cr-Ni) steels. The chromium nickel ratio can be modified to improve formability; carbon content can be reduced to improve intergranular corrosion resistance. Molybdenum can be added to improve corrosion resistance; additionally the Cr-Ni content can be increased.

7.8

Manufacture of Stainless steel products

In the context of manufacturing of lifestyle products quality of manufacture plays a very important role. With new entrants like 'Magppie' who manufacture 'designed' stainless steel household products the quality of products available to the customer has improved. The steel lends itself to a wide variety of finishes.

A manufacturing setup was studied. This company specializes in the manufacture of stainless steel products. A batch manufacturing process is followed. Strict quality standards are adhered to and the products are designed locally

Grade 304 stainless steel is used for manufacturing

Background

Grade 304 is the standard "18/8" stainless; it is the most versatile and most widely used stainless steel, available in a wider range of products, forms and finishes than any other. It has excellent forming and welding characteristics. The balanced austenitic structure of Grade 304 enables it to be severely deep drawn without intermediate annealing, which has made this grade dominant in the manufacture of drawn stainless parts such as sinks, hollow-ware and saucepans. For these applications it is common to use special "304DDQ" (Deep Drawing Quality) variants. Grade 304 is readily brake or roll formed into a variety of components for applications in the industrial, architectural, and transportation fields. Grade 304 also has outstanding welding characteristics. Post-weld annealing is not required when welding thin sections.

Grade 304L, the low carbon version of 304, does not require post-weld annealing and so is extensively used in heavy gauge components (over about 6mm). Grade 304H with its higher carbon content finds application at elevated temperatures. The austenitic structure also gives these grades excellent toughness, even down to cryogenic temperatures.

The company manufactures a range of products. Some interesting processes are used to get the steel to the desired shape. Some of them are

Cold Forming

Tungsten Inert gas welding (TIG)

Annealing

Passivation

Spinning

Deep Drawing

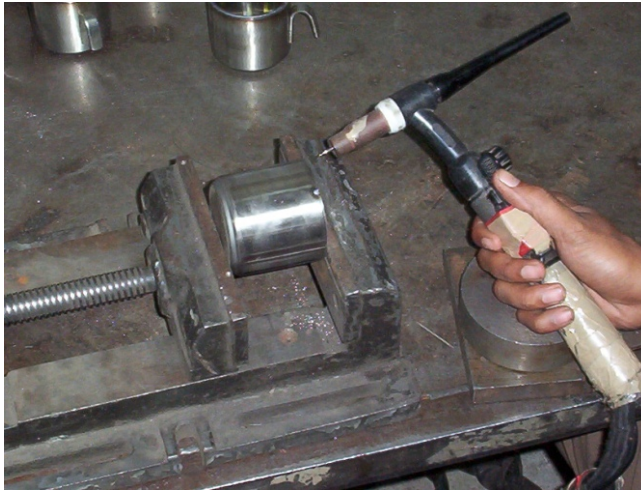


Cold Forming

Cold forming is a process wherein the steel blank is formed into the desired shape. As it is not possible to form the steel in one step, the blank is subjected to forming in stages. The cutoff or blank is punched gradually and what results is a form close to the final form. A stepped profile is created and after annealing this is punched to the final form

Annealing

Because of Work Hardening the steel after being formed is subjected to annealing. This is to remove the stresses in the material that result because of the forming process. The steel is heated to a temperature of 900 to 950 degrees Celsius (Melting point-1421 degrees)



Tungsten Inert gas welding (TIG welding)

A large number of steel products are made up of double walls. For example in coffee mugs, this double wall proves to be an advantage in terms of providing insulation. It is also resorted to, to add weight and body to the product. The welding used is tungsten inert gas welding. This kind of welding is resorted to when the non-appearance of the weld bead is a must. It also provides a strong bond and can be finished to be practically invisible. No seams are seen in the final product.



Tungsten Inert gas welding (TIG welding)



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Passivation

After the welding process the steel needs to be subjected to passivation. The active nature of the surface makes it prone to corrosion. This is because of the presence of free iron. A phosphate and Nitric Hydro fluoride are used for this process

Finishing

The most important part of the stainless steel manufacturing industry is buffing. Various finishes like Mirror, Semi Mirror, Satin and Brushed steel are possible.

Printing is also possible on the surface and products like nameplates can be produced



Organization & Manufacturing..
Manufacture of Stainless
Steel Products

Packing

Having finished the surface of the steel the products are sent for packing. Various sub-components like rubber legs can be attached to the surface. Plastic parts are attached and the product is finally packed.

Other processes like spinning and deep drawing are used to manufacture simple objects like steel containers.



8

Design Brief

‘Seeing Design in the ordinariness of life.’

With this in mind ordinary day to day objects were targeted. The initial project brief was made to describe the qualitative aspects that the products should have. The function or area of the product was not strictly decided, but a category and scale of products was selected to work in.

8.1

Product Definition and Area of Work

Exploration of Lifestyle products within a context

Products imparting joy, and a memorable, tasteful experience

Objects of day-to-day use not strictly utilitarian but objects to derive pleasure.

Exploring and Introducing Indian Lifestyle objects to people
Introducing Lifestyle products without cultural boundaries E.g..
Wine culture and Inferences from study of other cultures like tea ceremonies

Product Definition and Area of work

Products in a Contemporary Backdrop

Function should not overpower all other needs.

Objects that are displayed (Vase) or are personal (Pen Case)

Desired Qualities

Engrossing

Emotive

Tactile

Belonging to a Time and Place

Contemporary

Unique

The qualities that the final product should have were articulated. The qualities again are considered of prime importance than the function of the object itself.

8.2 Type of products for design

Coaster

Flower Vase

Paper Weight

Pen Case

Ashtray

Jewelry Box

Finally products that were designed were 'Tea Coasters'/ Tea Cup', 'Paperweights', 'Jewellery Display stands', and a 'Pen

9

Concept generation

Having acquired a thorough understanding of the domain of lifestyle products and having certain perceptions about the two material namely steel and glass, some initial ideation was done. With the wealth of imagery that was seen during the user study, the challenge taken was to create something new, something different. A constant riddle was how these two different materials could be combined to complement or aid each other. The union of these two materials was desired to be flowing, purposeful, aiding, adding, complementing and not forced or not done later. Due to this some associations were made with the attributes of the material itself. A constant thought was to create something unusual. Thus the conventional way that the materials would be used was done away with.

Where does one derive inspiration from. The roles of the material were often changed in the initial concepts and steel was looked at as a flowing material. At the same time it was also tried to look at glass differently.

The initial ideas of flower vases drew on the qualities of the materials themselves.

Tactile associations and an emotive visual appeal was considered primary to create a product.

Certain types of objects were then taken up and worked on. Types like tea coasters, jewelry stands and paperweights were attempted. With each attempt more subtleties of the qualities of lifestyle products became evident and these were further worked upon in the new designs.

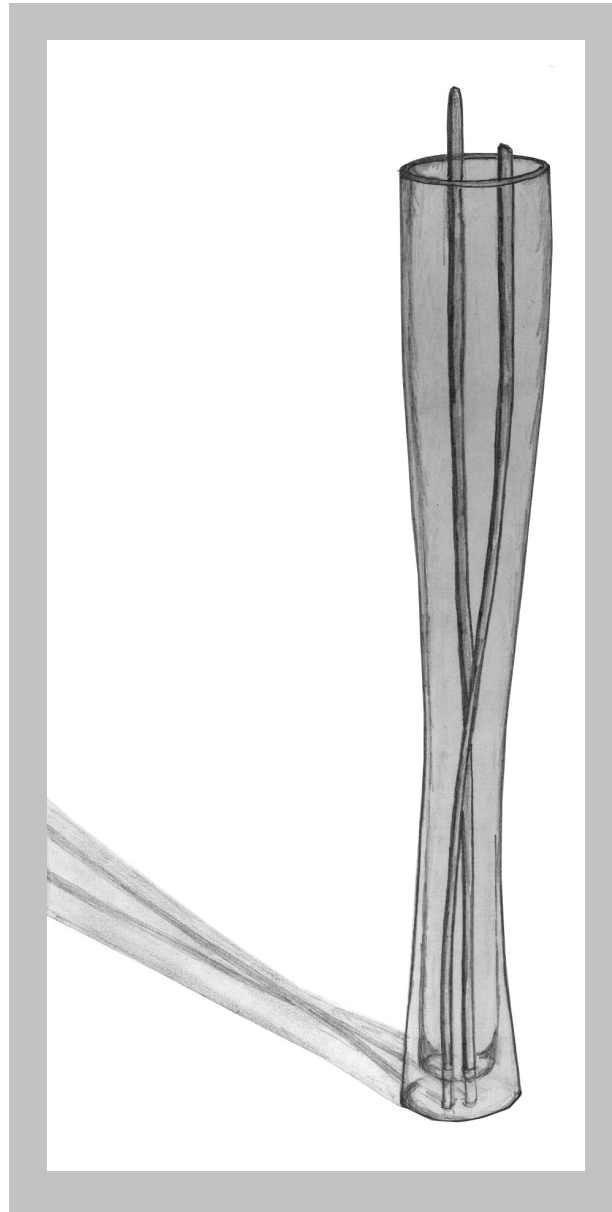
Manufacturing was considered to be of importance but the products were not necessarily designed for mass manufacturing. As cost considerations were not really an issue, it was assumed that some of these products would have an extensive manufacturing process.

Some diversions did get into the picture in the form of stray ideas but they only helped consolidate better the attributes that a lifestyle product should or should not have.

With the process of designing newer products one could evaluate ones own ideas and judge not only the strength of the idea but whether the product would make a successful lifestyle object.

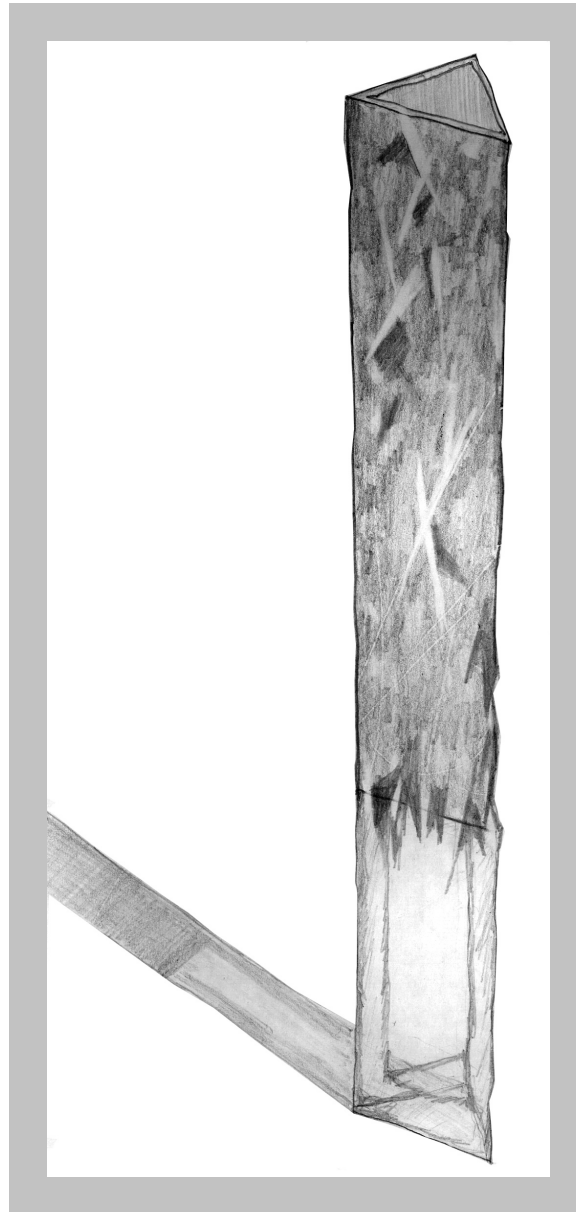
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Initial Concepts



Flower Vase

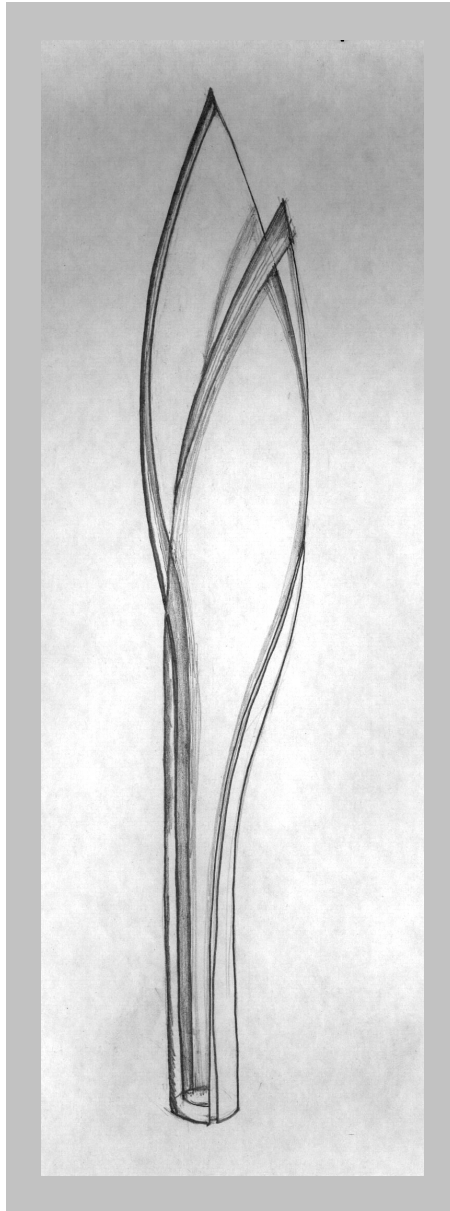
The idea of steel as a delicate material protected by a glass shell was explored. Designed as a single flower vase, the form of the object was such that it could be held delicately and appreciated. The steel was almost like delicate tendrils rising gently above the glass. Here the transparency of the glass would allow the delicate stem of the



Flower Vase

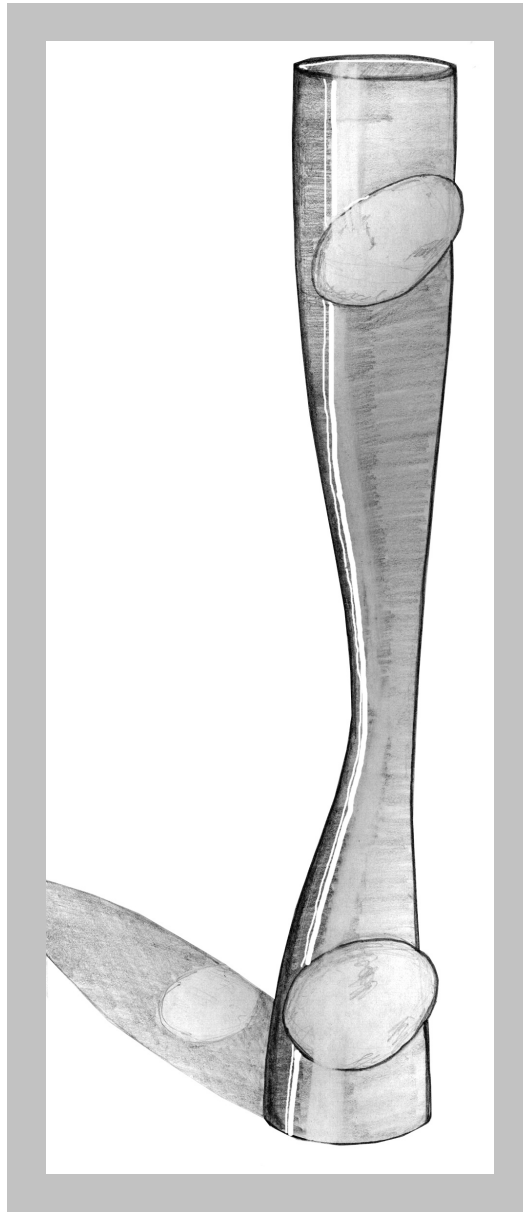
Here the tactile nature of the product was explored to simulate the senses. The upper part made of stainless steel would have a heavy texture, almost defying the smoothness of the steel that we are conventionally used to. Intended to be made in different scales, it could form part of a set. It could be used to keep a single flower or many flowers. A flower like gerbera would adorn this vase. The lower portion is glass and the delicate stem of the flower and the water would be visible through this. This would provide the necessary visual break into the form. It would also appear different as the steel rests on the glass.

Initial Concepts
Flower Vase



Flower Vase

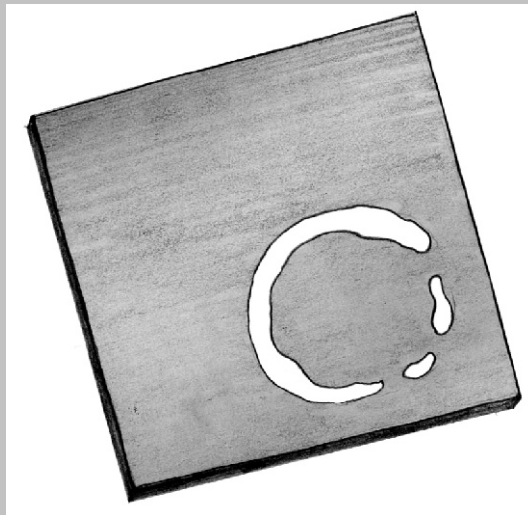
Here the form of the vase is made up of two leaves twining delicately. The steel would sway upwards as would the glass. The leaves appear to be waiting and are incomplete yet complete waiting for the flower. A Delicate bud gently keeping itself upright.



Flower Vase

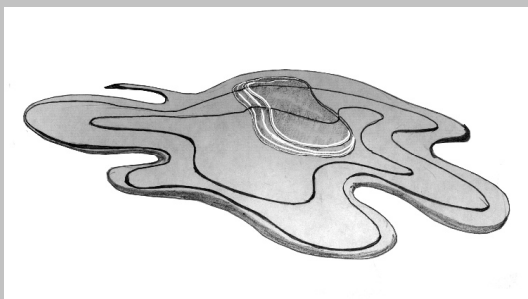
The vase is a trophy. The shiny steel reflects the grand surroundings. The steel distorts reality. The glass distorts the inner reality. A hand rests gently on the slender waist of the vase.

Lifestyle Products in Glass and Steel

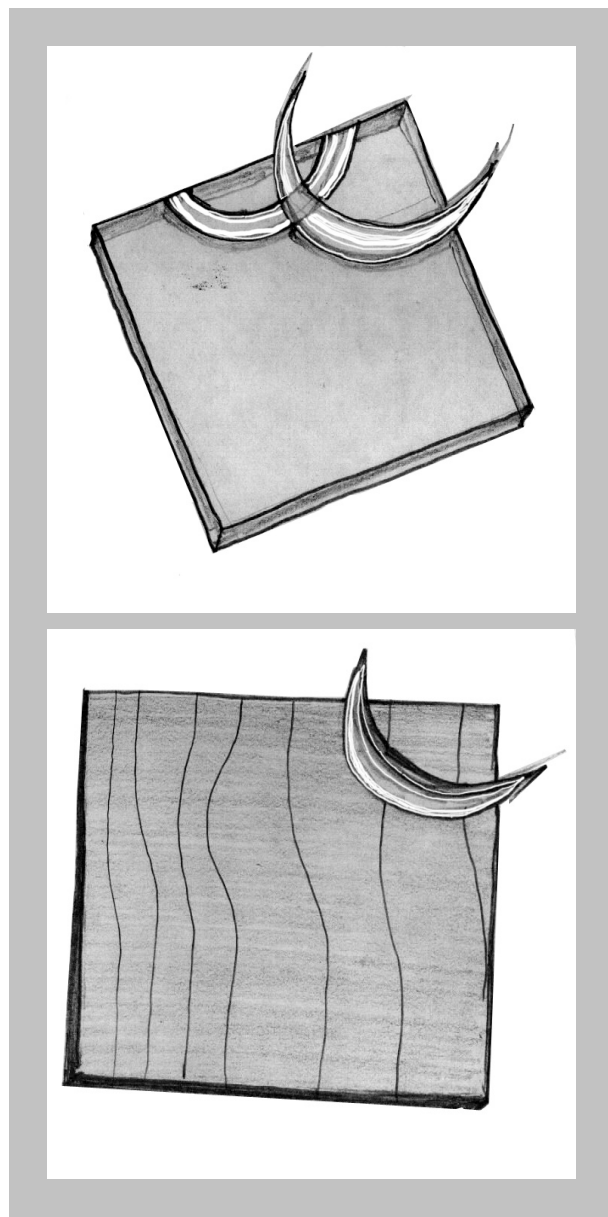


Tea Coasters

A Tea mark on a coaster connects it to time. I wonder who had that cup of tea before me. What was the person like? How much time has passed since the cup was removed

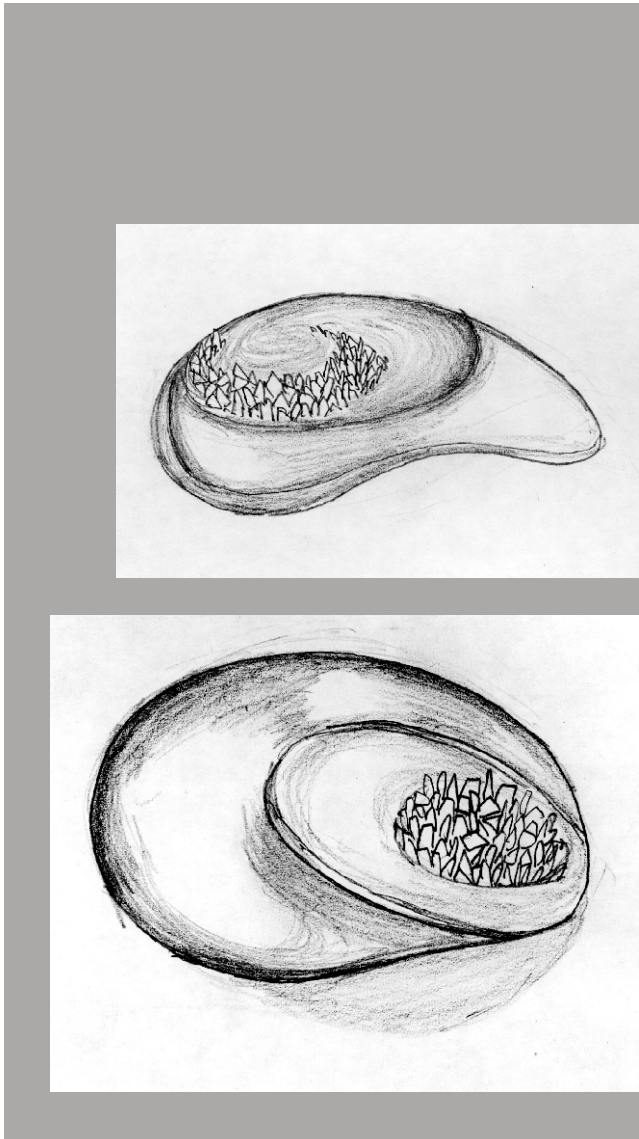


The moon lies on the surface of the lake. A breeze sends ripples across the surface and distorts the mighty moon. The moon dissolves into the surface



Tea Coasters

Glass and steel get together to make different forms. Sometimes it is the steel that is set in the glass and at other times it is the glass that complements the steel. The form tells stories. Something as mundane an object as a tea coaster can reveal several stories.



Paperweight

A contrast of shards of glass against a soft flowing form made in stainless steel was the idea. Here the idea of motion was explored. But the motion was within the paperweight. The form would rise at above the surface on which it was standing in a flowing swirl. This motion would be around a core which protects shards of glass. The glass comes together almost like the core of a flower.

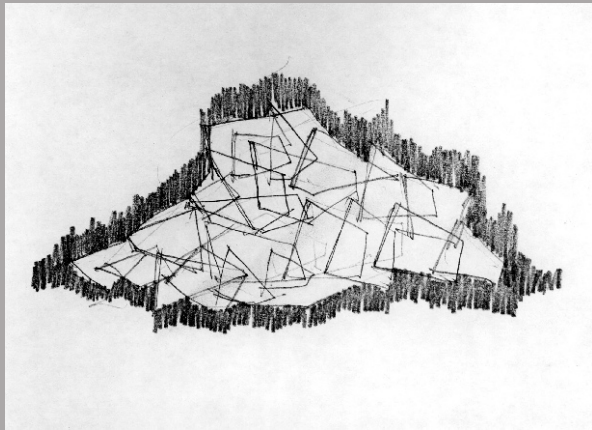
Production.

The outer part in stainless steel can be manufactured using two shells made from a cold forming process and then welded together and finished. The flowing form will need to be rationalized so that there are preferably no undercuts while forming. As the glass core can not be made like a craft piece, the several pieces are fused together and then used to make an outer mould like a lost wax process. From this several other pieces can be cast



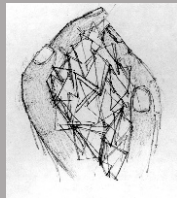
Lifestyle Products in Glass and Steel

Final Concepts
Paperweight



Paperweight

Pieces of glass on a wall that are fierce and can hurt. What would happen when these pieces came together. A form that assumes a character of fierceness results. Appearing to really hurt. This form had to be tamed, so that one could hold it in ones hands.



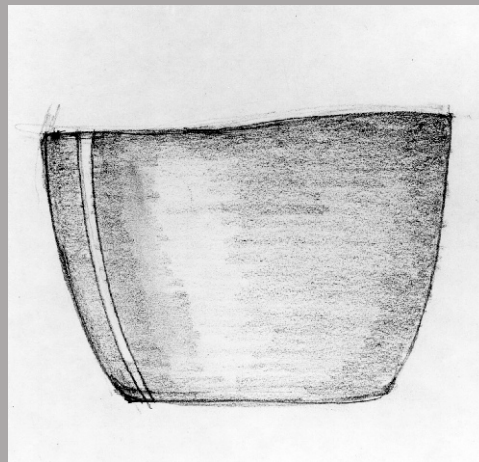
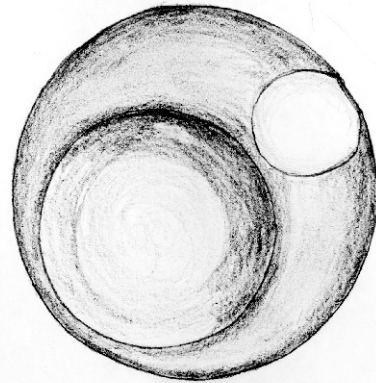
Production

The production would be a casting process more like a lost wax process. The outer mould will have to be broken for removing the inner form cast in glass.



Lifestyle Products in Glass and Steel

Tea Cup



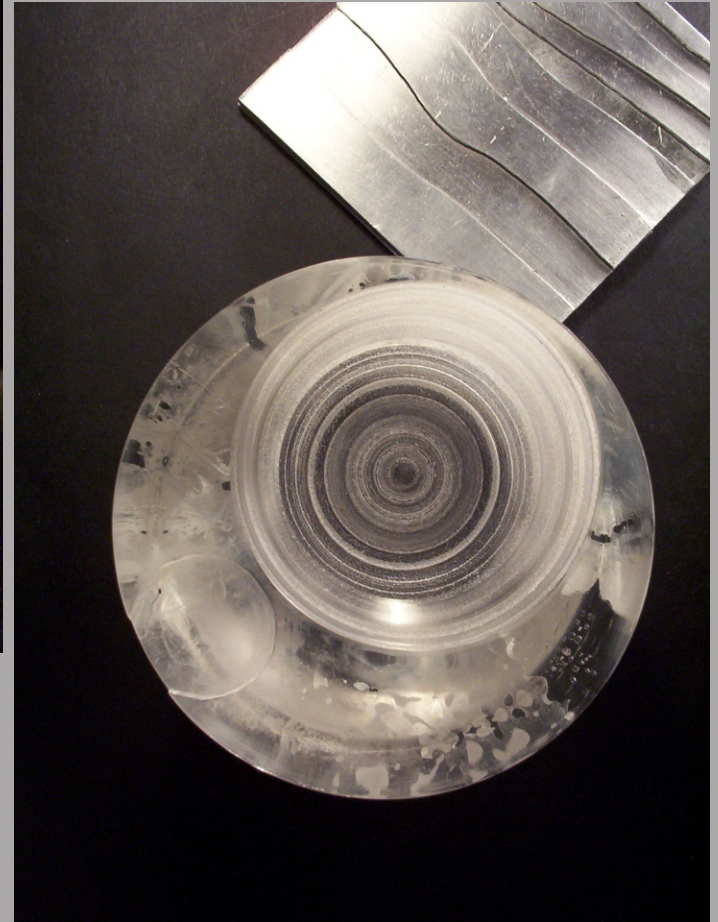
The main idea for the tea cup was to explore the richness of steel as a surface finish. The form of the cup in itself is designed to be such that it can be held warmly as a gesture using both the hands. The cup does not have any handle

'A cup where our hand is away from the tea', the space where the tea is poured is eccentric to the main body of the cup. This sets the unusual character of the cup and makes it stand apart.

While having tea itself certain phenomena occur. Stirring the tea spills some of it over the edge. This is captured as an expression by setting a streak of glass within the side of the cup itself.

Production

Coffee cups that do not have a handle and can be held directly by the body are already produced with a double walled construction. The heat of the tea does not reach the surface as the double wall creates the necessary insulation. For the production process the cup can be made of two shells that are made by cold forming in stages. Once the shells are ready they can be joined together by using ' Tungsten Inert Gas welding (TIG) Details like the glass streak over the edge can be done by fixing a glass piece directly on the surface. For this purpose the surface can also be machined or the feature can be included while doing the cold rolling.



Lifestyle Products in Glass and Steel

Jewelry Display

Designed as an artifact on a bathroom counter or on a dressing table, this object is meant for keeping small jewelry that is taken off. The jewelry and the object both form a composition. The product functions as a simple display where ones personal possessions can be kept. Although such a function is defined, the object need not be strictly utilitarian. The object is designed as a form that can stand by itself in the situations described above. The idea is to provide an emotive stimulus to the user by providing a visual stimulant in the context of his day to day life. The object is thus like a piece of jewelry in itself. Embellishments in the form of glass help in breaking the surface. The form itself was desired to be in steel. The conventional rigid image of steel can be done away with by using a flowing form. The same product can be made by reversing the materials and thus assigning a new meaning to the product.

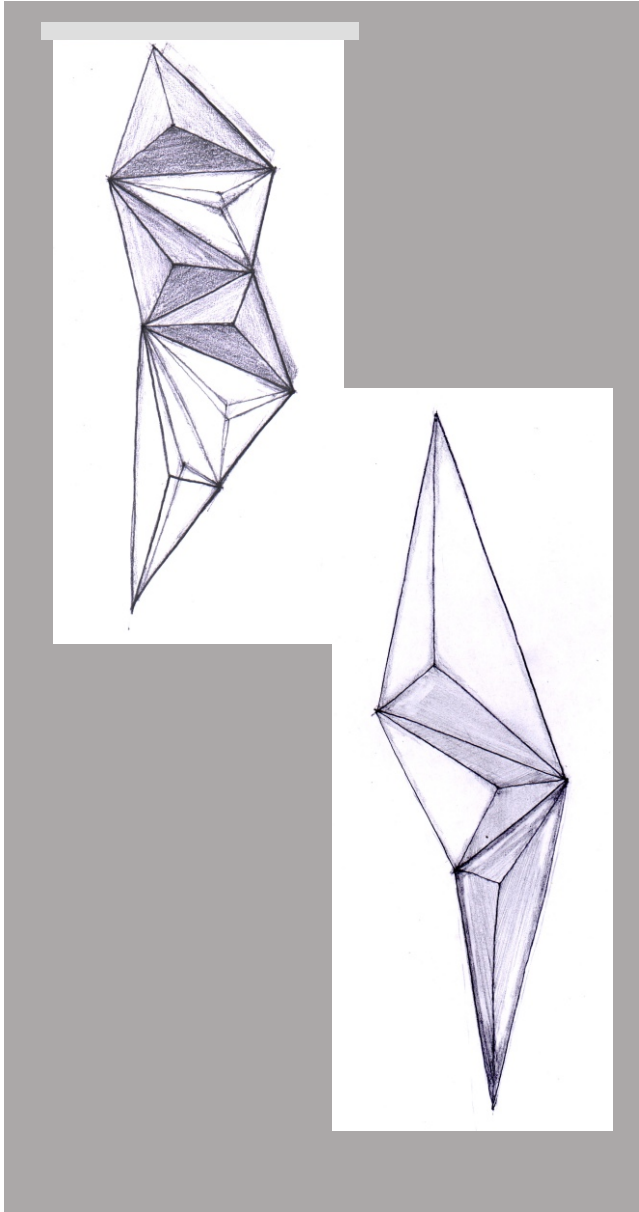


Production

The stainless steel outer shell can be made by cold forming it in two parts and then welding and finishing them. The holes can be drilled by using a specially made jig. Each piece of glass that needs to be inserted can be made either by casting or by cutting and grinding from a larger glass piece. When the materials are reversed, the entire outer glass form can be cast. The steel dots on the surface can be achieved by inserting the steel inserts at the time of casting itself.



Lifestyle Products in Glass and Steel



Jewelry display

A number of crystals come together and fuse to make a form.

Intended for displaying jewelry this object is made up of a series of Tetrahedrons that are stuck together. Some of these are in Steel and some in Glass.

The Initial idea was to have a number of them but then later on they were reduced to avoid unnecessary repetition.

Production

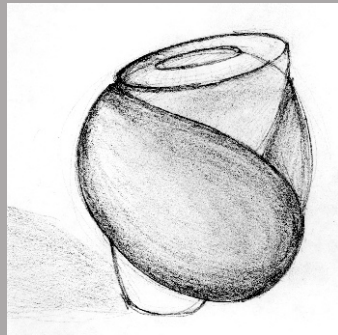
The glass tetrahedrons can be manufactured using a casting process. The steel tetrahedrons can be machined out of blocks. These can be attached by using a special adhesive.



Lifestyle Products in Glass and Steel

75

Pen Stand



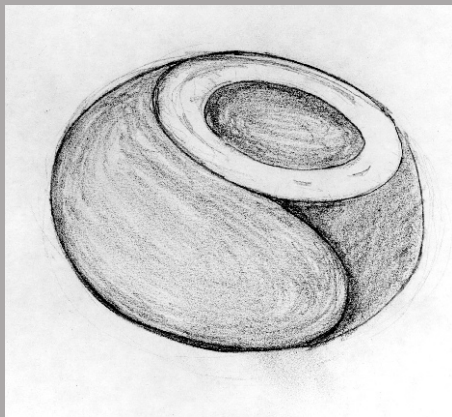
Pens are extremely personal and need to be protected. They also are displayed as a precious possession.

The first idea came about with a surface wrapping around a cone of glass. The glass was a delicate cover like a womb. The steel, because of its quality of strength can be used on the outside. In doing so however the steel assumes a soft flowing form unlike conventional use of the material.

Using the same concept, the design was changed so that the outer shell is part of an ellipsoid. The ellipsoid is used as it is a softer form. The scale is such that it can be held in the palms of both the hands.

Production

Two shells can be cold formed to form an ellipsoid. After this the shell can be cut to the desired profile and finishing operations can be carried out. The glass piece can be cast and a notch can be provided within the glass piece where the stainless steel surface affixes to the glass piece.





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Post Script

To make the products a commercially viable proposition the placement of these products in the market needs to be decided. Other aspects like manufacturing infrastructure, economics, business, quality and quantity of manufacture need to be decided. Also the segment of the market targeted and type of vendors needs to be fixed.

12.1

Infrastructure

For manufacturing the stainless steel products, the ideal solution will be to rope into the existing manufacturing infrastructure. A manufacturer like S & S enterprises that was visited undertakes specialized production under strict quality standards. Small-scale steel industries also manufacture products in North Mumbai at Bhayender. For simple processes these manufacturers can also be involved. As the current industrial trend goes one can go in for vendor-based production, as it is economically unviable to setup a whole plant having all the processes. Largely this infrastructure is involved in a batch manufacturing process.

The glass industry as earlier stated has a number of organized as well as unorganized players. Again for the production of glass articles the existing infrastructure could be utilized. Large amount of glasswork can be done in a place like Ferozabad. Skilled workers who are in these glass industries can be trained to produce under strict quality standards. Some amount of probing both in terms of exact technicalities and Simple processes like cutting and polishing can be availed of locally tapping the existing manufacturers.

Some amount of organization would be necessary in making glass articles if they have to be made locally

12.2

Economics

The range of Lifestyle products targeted fall into a cost exclusive market. Targeting chiefly the upper middle class as earlier stated, these products would fall into the Rs 500 to Rs 3000 category. This was done so keeping in mind the existing stores and the range of products that are displayed. Most of the products that have been designed have been done so keeping in mind the existing infrastructure. Although not designed for mass manufacturing a batch manufacturing process for these products is possible. The bottom line of production here is quality and the production needs to take care of this as well as the economic area targeted. Although cost of individual articles that have been designed has not been precisely calculated at this stage, it can be worked out and the design can be rationalized to fit into the targeted segment.

12.3

Quantity and quality of Manufacturing

As mentioned earlier the bottom line of the production is adhering to strict quality standards.

As existing infrastructure and processes is intended to be used, the availability of quality manufacturing is confirmed. Thus large investments in setting up new processes need not be undertaken. Quality standards in the glass manufacturing processes are not defined and designers often complain of the unavailability of these. These standards can be set in by observing other places and processes of production to yield ultimate finesse in production. This would mean setting up some sort of a training program or certain amount of research in the technical areas of the industry.

Unlike FMCG's these products do not register large sales. So a batch manufacturing process is ideal to keep the number of products made sufficiently small and also to utilize the resources and infrastructure adequately. Initial market studies gave us some idea of the volume of sales of these products that was definitely not in the mass manufactured products category.

12.4

Business. Distribution. Selling.

Existing lifestyle stores that were studied and new ones that are emerging are commissioning designers to design and produce these articles locally. This proves the existence of a market for these products at least in the urban scenario that was studied. Larger samples and an idea of sales can be obtained by doing a detailed market study in the metropolitan cities. This should provide an adequate market for the range of products being designed.

Talking to designers the ideal solution for payment is a one-time fee for the designs and organization of resources. Another scenario that was seen was the designer being employed as a consultant and getting remunerated for not only design services but also technical expertise and so on.

The products can enter the market as a range of products.

One more avenue open to the designer is an entrepreneurial venture, where the designer would be involved in all aspects including design, management, marketing, production and sales.

A large part of this project went into understanding what is meant by lifestyle and what goes into making a lifestyle product. Subtleties of these products were revealed during the course of the project. Products that are simple having an intrinsic beauty that is subtle and unforced are what appeal to people. These products have an understated complexity and the strength of the idea is communicated directly to the possessor. The project was an effort to bring out these qualities in the products.

Bibliography

Bibliography

Daily Life in Ancient India. 200 B.C. To 700 A.D.

Jaennine Auboyer

Glass forming. Glassworking for the craftsman

Frederic and Lilli Schuler

Engineering Materials

Rangwalla

Websites

www.artisticwoods.com

[Www.efunda.com](http://www.efunda.com)

www.warmglass.com

www.ransom-randolph.com

<http://medusa.as.arizona.edu>

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