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### Transformable shoes

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# **Rochester Institute of Technology**

A Thesis submitted to the Faculty of  
the college of Imaging Arts and Sciences  
in candidacy for the degree of  
Master of Fine Arts

## **Transformable shoes**

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School of Design  
Graduate Industrial Design MFA Program

January 30, 2005

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Date: January 30, 2005

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All of my Industrial Design classmates

And all of my Thai friends in Rochester and Syracuse

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Fig. 3. Normal shoe storage

For this thesis project, I solved these problems by creating a woman's shoe that can transform into different configurations and can be used for different purposes. In other words, if you purchase one pair of shoes, you get three pairs. A shoe that transforms is not only practical to travel with, but also addresses the problems of storage and budget.

Here is the brief description of the thesis project:

**Primary target:** A traveling businesswoman, who needs to minimize her packing space while still preparing the outfit to suit every upcoming event in her trip.

**Secondary target:** A typical woman who has storage and budget issues.

**Problem:** During the day, businesswomen often need to dress professionally for meetings but at an evening function may need to dress glamorously. These two events require separate types of shoes. Moreover, during leisure time they might need a comfortable shoe to go with their casual dress. Imagine how much space they would need if they had to bring all these shoes on one trip.

**Solution:** Create one type of shoe, which is a shoe or a pump that is able to transform to a sandal and an evening shoe.

The creation of shoes that are able to transform to different configurations will require comprehensive research in the fields of shoe design and shoemaking. A variety of antecedents in both fields will be identified to operate as meaningful effects on this thesis.

## Chapter 2: Inspiration of Precedents

Jan Jansen created the collection of "Interchangeable" fashions, which consisted of shoes, mules and boots with cutouts into sections of contrasting suede, leather or patterned cloth that could be inserted.

**Name:** Interchangeable 1

**Materials:** Stainless steel, Removable mule in printed brocade

**Time:** 60s



Fig. 4. Interchangeable 1



Fig. 5. Top View

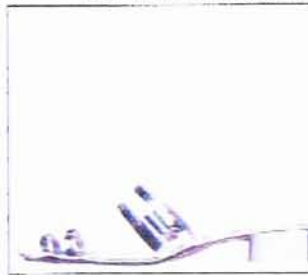


Fig. 6. Side View

**Name:** Interchangeable 2

**Materials:** Goat, Stainless steel trims

**Time:** 60s



Fig. 7. Interchangeable 2



Fig. 8. A mule

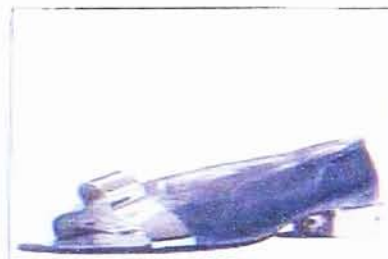


Fig. 9. A sandal after removing mule

Roger Vivier, a true Parisian, is the so-called "king of the heel". He became a Christian Dior's shoe designer in 1953. In 1954, Vivier was the one who introduced the stiletto heel, as accessories to Christian Dior's designs, the shoes with their arrogantly arched insteps. Vivier not only created the stiletto heel but he also created the first thigh-high boots in the 60s. Since the 30s, Vivier has become a fanciful shoe designer. He was the one who created the shoes, with "gold kid sandals with arabesques and heels studded with rubies" for Princess Elizabeth on her coronation day. (Colombe Pringle, p.7)



Fig. 10.



Fig. 11.

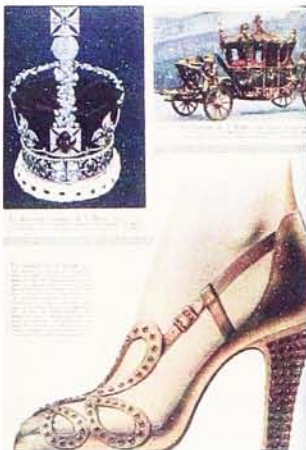


Fig. 12.



Fig. 13.



Fig. 14.

Fig.10: **Pump**, 1963. Pink satin embroidered with pearlized paillettes, with "comma" heel.

Fig.11: **Open evening pump**, 1956. Ankle straps, double embroidered, stiletto heel with rectangular base.

Fig.12: **Ruby-studded gold kid sandal**, 1953. Created for Queen Elizabeth II for the coronation.

Fig.13: **Ginza thigh boot**, 1967. Small Éclair zipper on inside leg.

Fig.14: **Shoes embroidered by Lesage**, 1988. The cunning use of lace and crystal embroidery creates a transparent bond between the architecture and the shoe design.

Both of Jan Jansen's and Roger Vivier's shoe creations inspired me to basically think outside the box. They changed my concept of shoe design by showing alternate ways of the shoe's apparent function that could be created with some imagination.

Interchangeable 1 and Interchangeable 2 present the idea of how a shoe can transform into different styles.

Fanciful shoes of Roger Vivier inspired me through various ways. First, his unique shoe styles are still classic and elegant, and never go out of date no matter how much time passes by. Second, the selection of materials is marvelous. I am amazed by how Vivier chose new materials and combined them into variety styles of shoes such as kingfisher feathers, jewelry, silver thread, fairy tale embroidery with transparent plastic, etc. Finally, his ideas and his imagination have always fascinated me. To me, Vivier shoes are truly works of art that take shape in shoe form.

Without inspiration from both of Jan Jansen's and Roger Vivier's creations, the "Transformable Shoes" would not have occurred. Their amazing creations have a big impact on me not only through my shoe designing for this thesis project but also my designs and my intellect as I pursue my design career.



### Chapter 3: Research of shoe types

Most shoe fashions are variations of 16 basic styles:

- the balmori
- blucher
- d'orsay
- gillie
- monk
- mule
- sandal
- strap
- boot,
- brogue
- gore
- jodhpur
- moccasin
- oxford
- pump
- shawl tongue or kiltie

**The following types of shoes are important and so is their history** because these types of shoes are typical and common for everyday use. Furthermore, they all have an interesting history, which should not be neglected.

1. **The sandal** There are varieties of sandal types but basically every one consists of a flat sole with or without a heel but with an upper nearly leaving the entire foot uncovered. Sandals were the first type of footwear that started in early 3500 B.C. by Egyptians. Moreover, sandals are part of an outfit that classifies people's status during this period. In the 20s, the sandal style had become everyone's favorite type of shoe again because of the addition of heels after it disappeared out of fashion for almost 1,000 years. During the 60s, sandals became flat and practical once again. However, the 60s sandals were not trendy for long because of the disco dancing in the 70s. High-heels disco sandals, which gave sandals a slightly tacky character, became popular instead of flat sandals. In the '80s, Maud Frizon, Manolo Blahnik and Bennis Edwards designed an additional type of sandal, which was a closed-toe style but still preserved their sexiness.

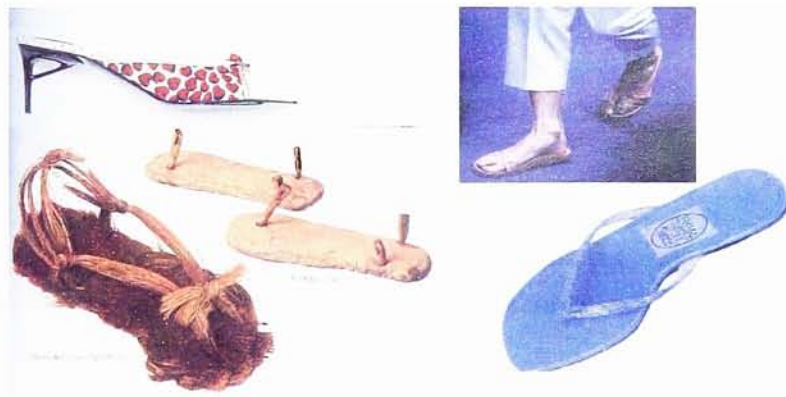


Fig. 15. The variety styles of sandals

2. **The heel** Rona Berg wrote in Vogue magazine that high heels have the ability to affect a woman's appearance dramatically more or less powerful. Moreover, those high heels are also a symbol of sex appeal. Nevertheless, wearing high heels for long periods can create pain. But for the following reasons, they have the magical power to seduce. "The history of heels is murky, although they surely date back to pre-Christian times. Egyptian butchers wore heels to raise their feet above the carnage and Mongolian horsemen had their boots heeled to grip their stirrups more firmly." Linda O'Keeffe, p.73. In 1533, heels became popular because Catherine de Medicis, who brought heels from Florence to Paris for her approaching marriage to the Duke d'Orleans, wore them for vanity. Therefore Ladies of the French court instantly embraced the style. The heel was always in and out of style until the 50s heels turned up for new heights. To the dismay of women, spindly high heels emerged again in fashion magazines in the 90s.



Fig. 16. Tom Ford's Gucci



Fig. 17 Christian Louboutin, 1995



Fig. 18. Charles Jordan's shoes

3. **The Pump** Pouppe, Pompe or Pumpe were the first names used in 1555. The name came from the sound the shoe made when it would strike a polished floor. According to O'keeffe, the pump is always in style. It is called the little black dress of the shoe world because of its sensible heel, unadorned form, practical, superior and well bred and classically conservative look. In the early 16<sup>th</sup> century it was part of a footman's uniform. A flat, flimsy slipper that needed to be gripped in place with the heel and toe muscles. During the mid 1700s, European women embraced this heel-less shoe from adapting a street version favored by dandies. By century's end, pumps appeared on both sides of the feet of ladies and gentlemen who contemplated them the shoes to dance in.



Fig. 19. Peter Fox', 1994

After appearing as a unisex type of shoe, they started to gain heels around 1838 and today their characteristics remain a fashionable shape for lady's shoes. Furthermore, women demanded fashionable shoes that could be worn comfortably all day when they entered the workforce in great numbers during the 80s-90s.



Fig. 20. Karl Lagerfeld, 1990s



Fig. 21. Robert Clergerie, 1996

4. **The sensible shoe.** The majority of comfortable women's shoes originated from men's footwear. They were made for men – such as the oxford, the brogue, the gillie, the yachting shoe, and the sneaker – and then were adjusted for women later. The mid 1800s was not only a period of rapid social and economic change but also changed women's lives and the way they dressed. While women began to work in offices and factories, their shoes and apparel became less restrictive and more practical. More women began to participate in a variety of activities, such as sports, and therefore, their feet were shod in athletic boots or sneakers. By the 1920s, women's bodies and their feet were emancipated. Then adaptations of men's shoe styles were popular among women.



Fig. 22. Hush Puppies, 1995 and 1996



Fig. 23. Eddie Bauer, 1996



5. **The boot** Unlike high heels, boots are a symbol of strength. Upper class women began wearing boots in their ordinary lives in 1830s. The new ankle-high boots were made on narrow lasts and worn tightly laced or buttoned and introduced to make women feet look more exquisite. Until 1850s, maids were able to afford boots when they were no longer an indication of women's status. However, women's boots entered the world of fashion in our own century. New styles, materials, lengths and heel heights proliferated, and for once women who wore boots were the exhibitions instead of their make equivalences. Also, the miniskirt vogue came in 1960s and also emphasized more of a woman's leg than ever before, which Coco Chanel entitled "an exhibition of meat". Moreover, boots were no longer an accessory, they practically became outfits.



Fig. 24. Charles Jourdan, 1988



Fig. 25. Francois Pinet, 1890s



Fig. 26. Lois Vuitton Boots

6. **Art & Sole** One-of-a kind-shoes that take flight from a designer's fantasies become realized on the foot, elevating the shoe to a work of art. They are unique in conception and execution<sup>1</sup>.



Fig. 27. Stine Heilmann, 1996



Fig. 28. Barton Lidice Benes, 1984

<sup>1</sup> Linda O'Keeffe, Shoes: a celebration of pumps, sandals, slippers& more {New York: Workman Publishing Company, Inc., 1996}



## Chapter 4: Research of shoe's anatomy

This whole chapter has affected me personally because I did not have any background or prior knowledge related to the shoe industry. To be able to succeed in this task, I was challenged throughout to have knowledge of shoemaking from the start of the process.



Fig. 29. Men shoe's anatomy<sup>2</sup>

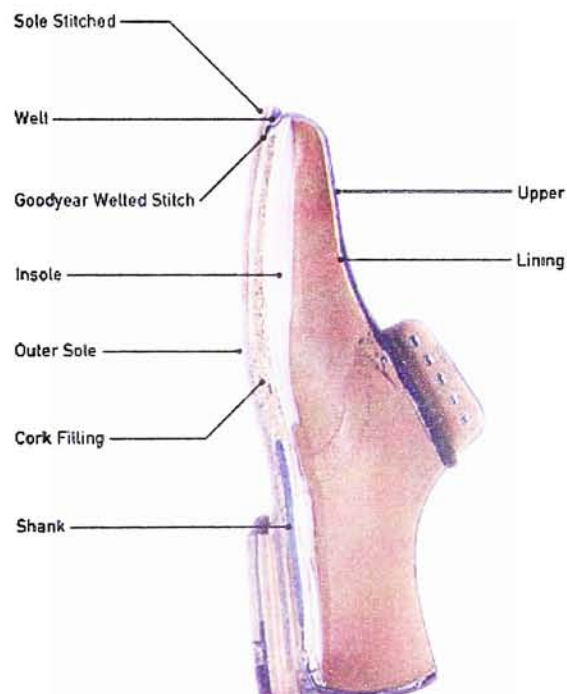


Fig. 30. Men shoe's anatomy in section<sup>3</sup>

<sup>2,3</sup> <<http://gsn.uk.net/shoe.html>> {24 September 2003}

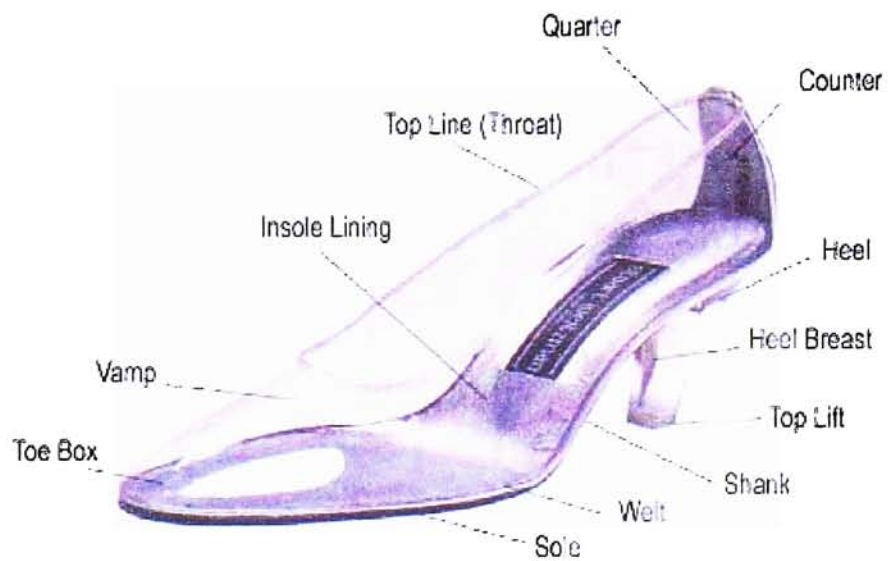


Fig. 31. Women shoe's anatomy<sup>4</sup>



Fig. 32. Sneaker's anatomy<sup>5</sup>

<sup>4</sup> O'Keeffe

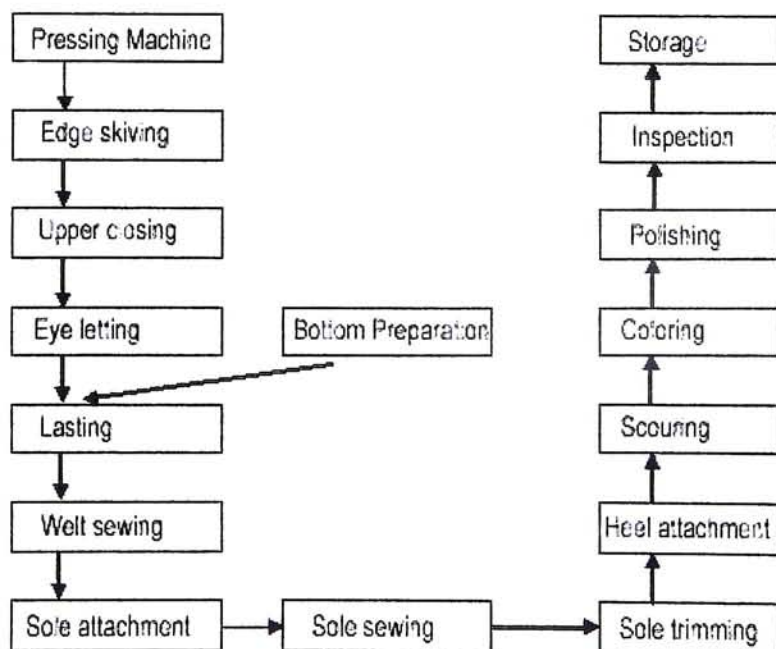
<sup>5</sup> Hersey Custom Shoe Company, <<http://www.herseycustomshoe.com/anatomy2.html>> {24 September 2003}

### Common materials of making shoes

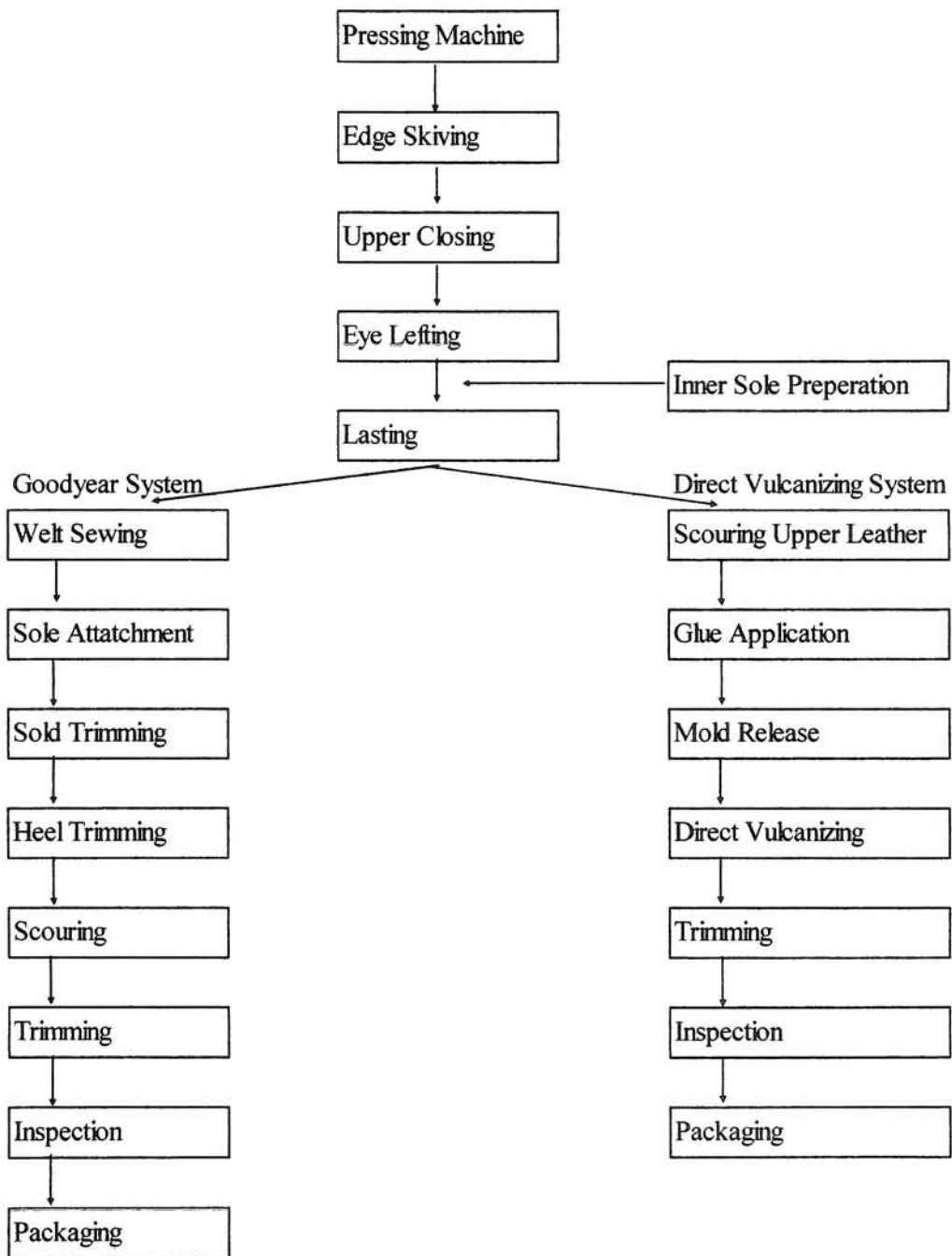
- **Upper Material**
  - Leather -Cattle
  - Leather- Sheep
  - Leather- Pig
  - Leather- goat
  - Synthetic materials: neoprene, rubber, vinyl, etc
  - Textile
  
- **Soling Material**
  - Leather
  - Resin rubber
  - Vulcanized natural rubber
  - Micro cellular rubber
  - PVC
  - Polyurethane
  - Thermo-plastic rubber
  - EVA

### Diagrams of the shoemaking process

#### Process of making combat boots



## Process of making high heels



This whole chapter is a lesson that gave me a quick understanding of shoes' parts and their combination before going into deep details and processes of shoemaking in order to adapt to a new breed of shoe designs.

## Chapter 5: Research of commercial shoe construction

According to Cameron Kippen, Curtin University of Technology, Perth WA, the method of construction of commercial shoes can be separated into seven categories.

- **Cemented/ Board lasted** The upper is attached to the bottom of a flexible board on top of the midsole. It makes the shoe more rigid and stable and suitable for those who are under or over pronate.



Fig. 33. Ex. of a cemented shoe

- **Goodyear Welted** Shoes are made by sewing an extra layer of material (the welt) between the upper and the sole.



Fig. 34. Ex. of a good year welted shoe

- **Direct Molded** The direct injection process molds the outsole directly to the upper, eliminating the need for stitching, making the shoe lighter and more flexible.



Fig. 35. Ex. of a direct molded shoe

- **Moccasin** The oldest shoe construction. This consists of a single layer section, which forms the insole, vamp and quarters. The piece is molded upward from the under surface of the last.



Fig. 36. Ex. of a moccasin shoe



- **Stitch down** It is a cheaper method, used to produce lightweight flexible soles for children's shoes and some casual footwear. The upper is turned out at the edge of the last. This is then stitched to the runner.

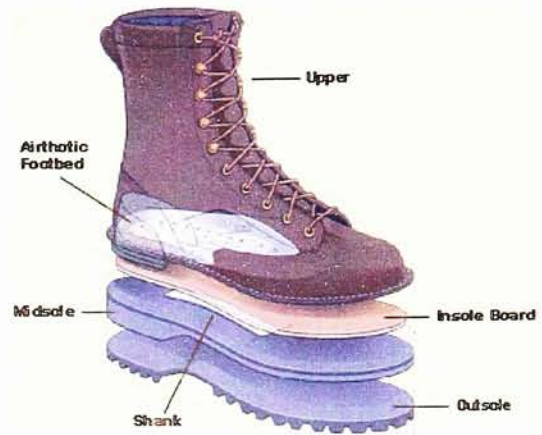


Fig. 37. Ex. of a stitch down shoe

- **Strobel stitched** Or force lasting, has evolved from sport shoes but is increasingly used in other footwear. The upper is sewn directly to a sock by a strobel stitcher (an overlooking machine). The upper is then pulled onto a last or moulding foot. Unit soles with raised walls or moulded soles are attached to completely cover the seam.



Fig. 38. Ex. of strobel stitched shoes

- **String lasted** Vulcanized construction - construction in which rubber pellets are heated in a mold to form the bottom.



Fig. 39. Ex. of string lasted shoes

## Chapter 6: The making of a last and a shoe

The "First and most important step is the creation of the last, a hand-carved wood or molded plastic replica of the human foot. It alone determines the contour of the arch and how evenly the wearer's weight will be distributed throughout the foot, both of which are critical in establishing comfort." Linda O'Keeffe, p.17

Whether the shoe is handmade or mass-produced, it requires a different last for each shoe style. Moreover, last making also requires trained skill and a great eye for fashion. "After recording as many as 35 measurements from a "footprint" that shows the distribution of body weight, the maker then judges the symmetry of the toes, calibrates the girth of the instep and ball of the foot, and calculates the height of the big toe and the contour of the instep. He also estimates how the foot will move inside the shoe." Linda O'Keeffe, p.18

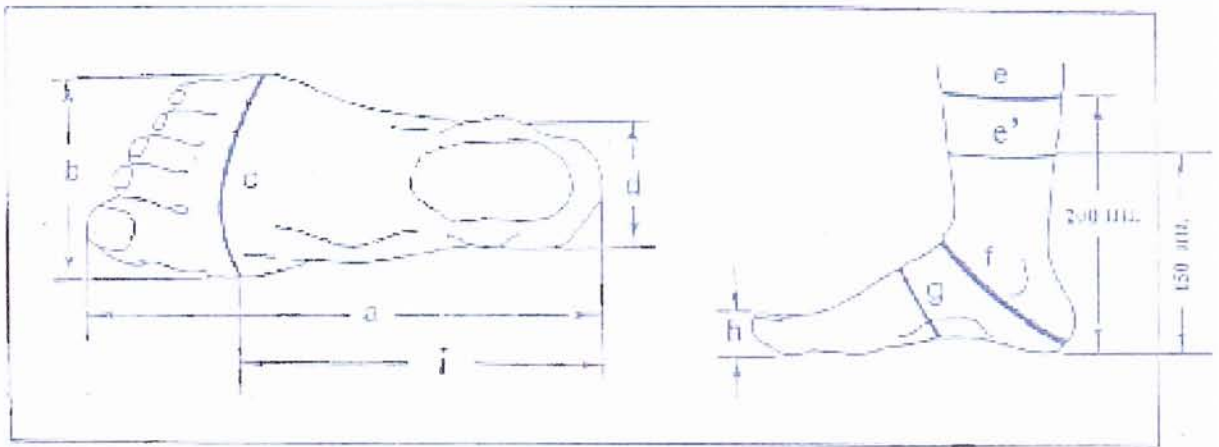


Fig. 40. The measurement of making a hand-carved wood or a molded plastic replica

The women's shoe making process such as for pumps, sandals or high heels, starts with the cut of the various parts: upper, arch support and sole. The upper cut is quite a delicate application compared to the lining cutting and arch support. The patternmaker who cut the upper must avoid wasting raw materials and causing defects that could jeopardize the whole shoe at the same time. Machine cutting is faster and a more precise definition than hand cut. However, hand cutting is easier because it requires lower costs and less pieces of equipment. Once the leather cutters cut the upper, the lining and the arch support, they then put a stamp on the leather to indicate size. The quality of the cut and the presence of the size stamp are checked before allowing the skilled hemmers to continue work on the next step. In this stage special machinery is used to split

the leather if it is thicker than necessary. The perfection of the edges of the upper is a must, because it allows the special sewing of the edge and prevents the leather from hardening over time. Finally the edging operation and the application of reinforcements are processed.



Fig.41. Some processes of women shoes making

At this point the upper is ready for the hemming. Through simple joining, overlap, zigzag and moccasin (various types of sewing), the shoemakers prepare a specific form of the upper. Lining, heel and sole are the remaining assembly parts, which are under the surface. The hemming requires the greatest quality of work in the production of the shoe because it enhances the quality of the final product.

For the heel, a shoemaker envisions the heel height, and then proportionately establishes the size of the throat. Next, the appropriate height of the shoe's quarter is placed; if it is too high, it will rub the tendons, however if it is too low, the shoe will fail to grip the foot properly. The measurement of the shank curve, which is the area that includes the ball and instep of the foot, is the most crucial part to fit in a shoe. This is where the body's weight falls when the foot is in motion.

Next a shoemaker constructs a toe box, adds the counter and soaks the leather so it will easily adjust to the lines of the last. A shoemaker carefully positions the upper and lets it dry on the last for two weeks before the sole and the heel can be attached. "The preparation of the sole and the heel depends on the type of components produced and the system of the workmanship adopted. Today this phase has practically disappeared. Since materials are used that have been



processed by third parties, or else the whole sole-heel unit is already connected up (the so-called "pre-defined bottom")." Paola Buratto Caovilla, p.178. Soles and heels are made of leather for high quality shoes or plastic materials covered with leather. On the other hand, lower quality shoes usually increase the use of rubber or plastic.

For the final process, finishers trim the welt, pare the heel, burnish the sole and add the insole lining. Eventually, the shoe is polished and ready to wear.

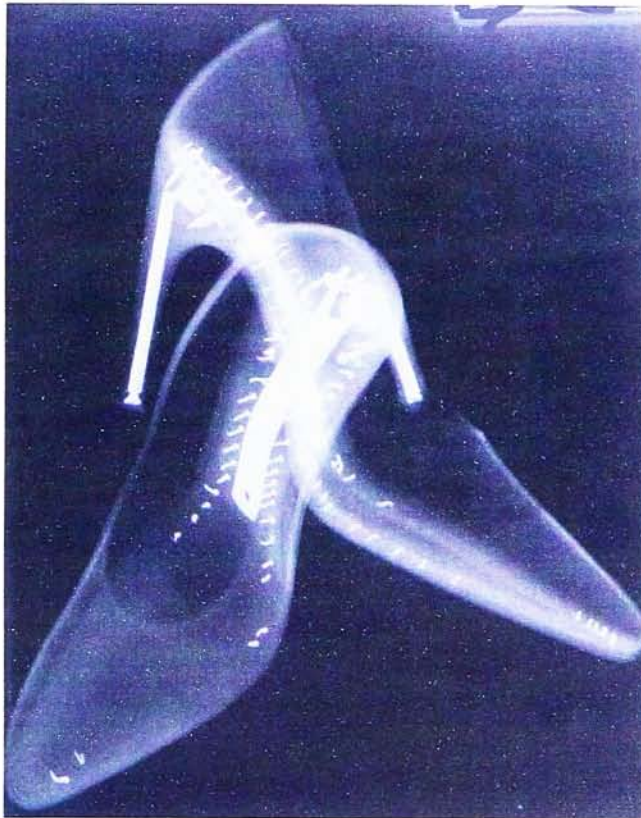
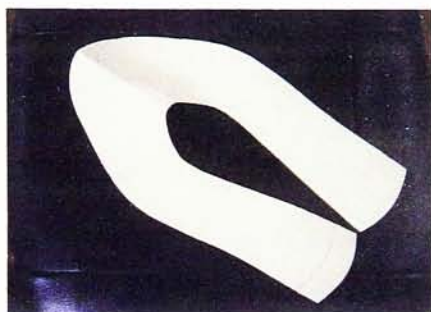


Fig. 42. Negative photo of finished shoe

My transformable shoes are a handmade production similar to these processes. However, the upper pattern has to be different and requires that a shoemaker separates the toe box from the rest of the upper. It is not necessary to let the upper dry on the last for two weeks, just until the glue dries, which might take couple days.

**Fig. 43. Showing the demonstration process of making a woman sandal or a pump step by step**



**1. Pattern of shoes.**



**2. Drawing the pattern of the upper on the material such as leather.**



**3. Cutting the patterned pieces out and hemming them together.**



**4. Finished leather part.**



**5. Attaching an insole to a last.**



**6. Preparing for stretching on a last.**





**7.** Trimming an insole.



**8.** Stretching an upper on a last with glue and nails.



**9.** After previous process, letting the glue dry for 1-2 weeks.



**10.** Releasing from a last.



**11.** Attaching an outsole.



**12.** Attaching a heel.



**13.** Preparing for assembly an insole Lining.



**14.** Finishing a shoe.

## Chapter 7: Ideation

These primary sketches focused within the constraint of removable parts and transformable style or type of a shoe. The idea is to focus on one type of shoe that the wearer can add or be able to remove some parts of its upper or any other part. Then after removing the parts, a new type of shoe is created. The following alternative sketches were for image generation and initial brainstorming.

### Concept Sketching

Fig. 44. Alternative concept sketch 1

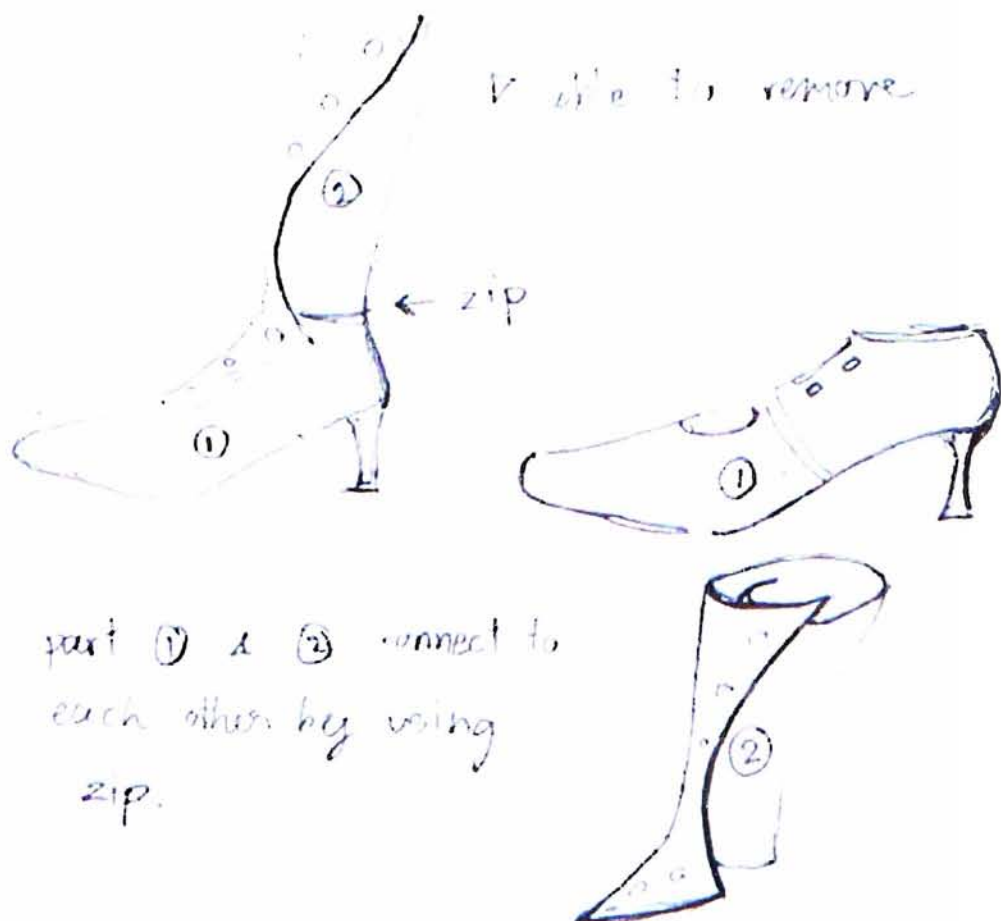


Fig. 45. Alternative concept sketch 2

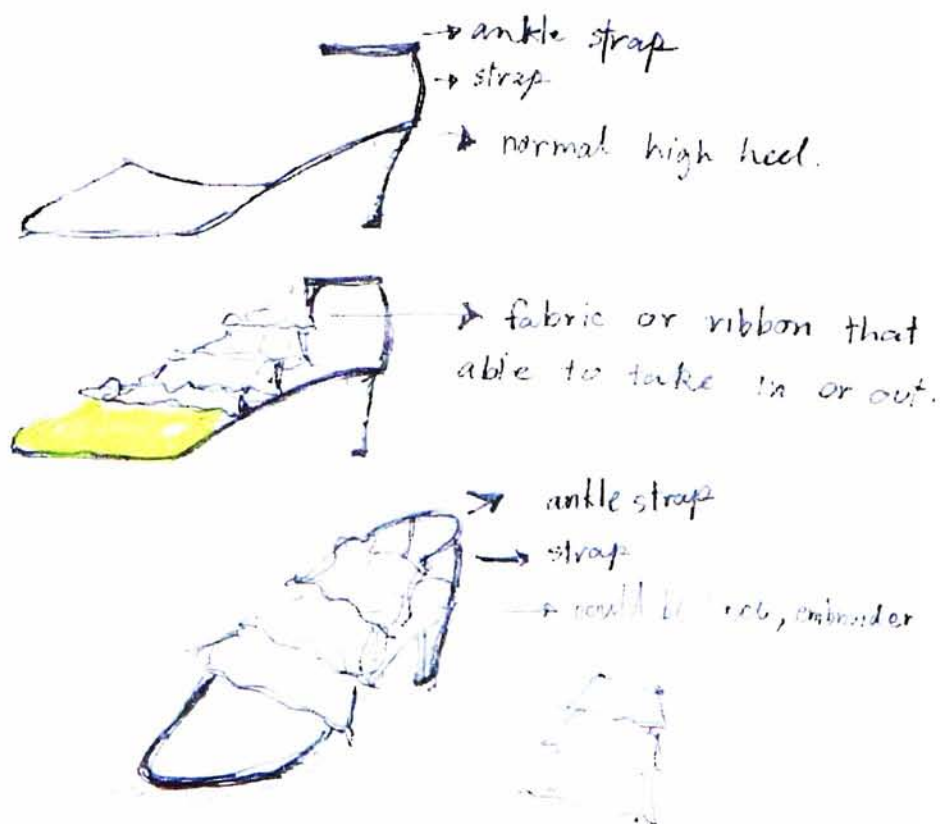


Fig. 46. Alternative concept sketch 3

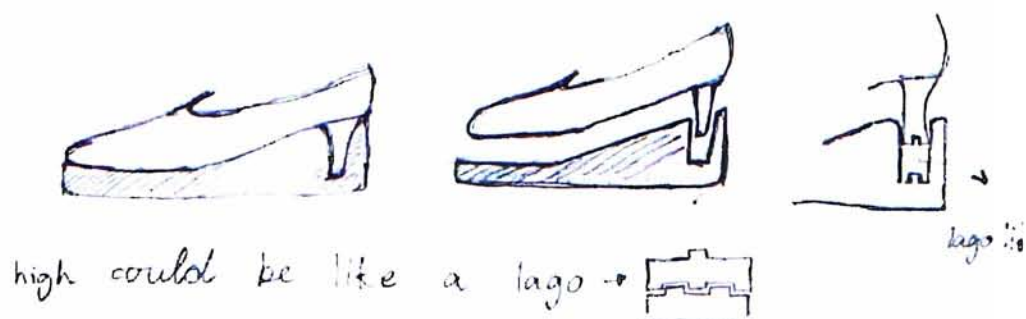


Fig. 47. Alternative concept sketch 4

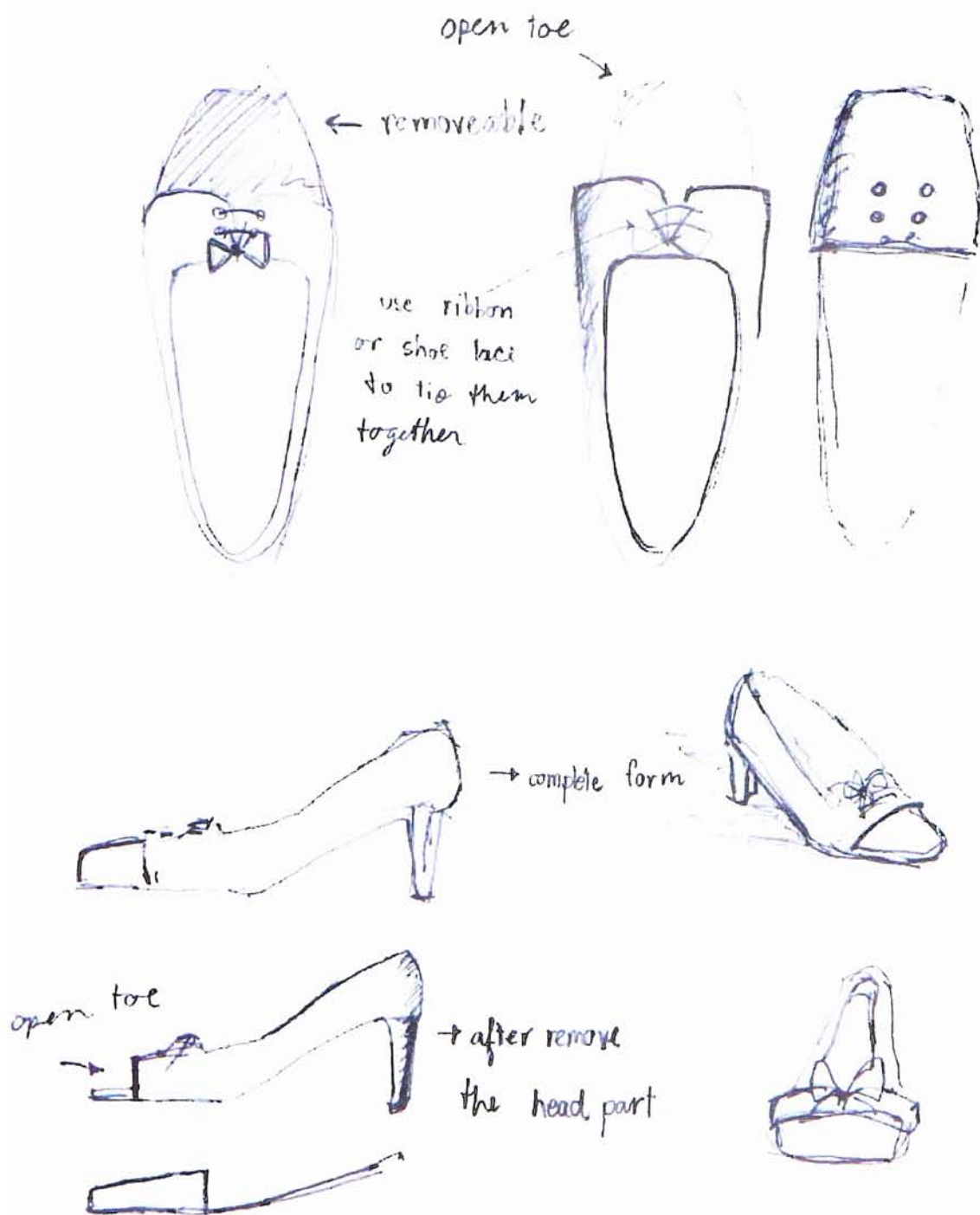
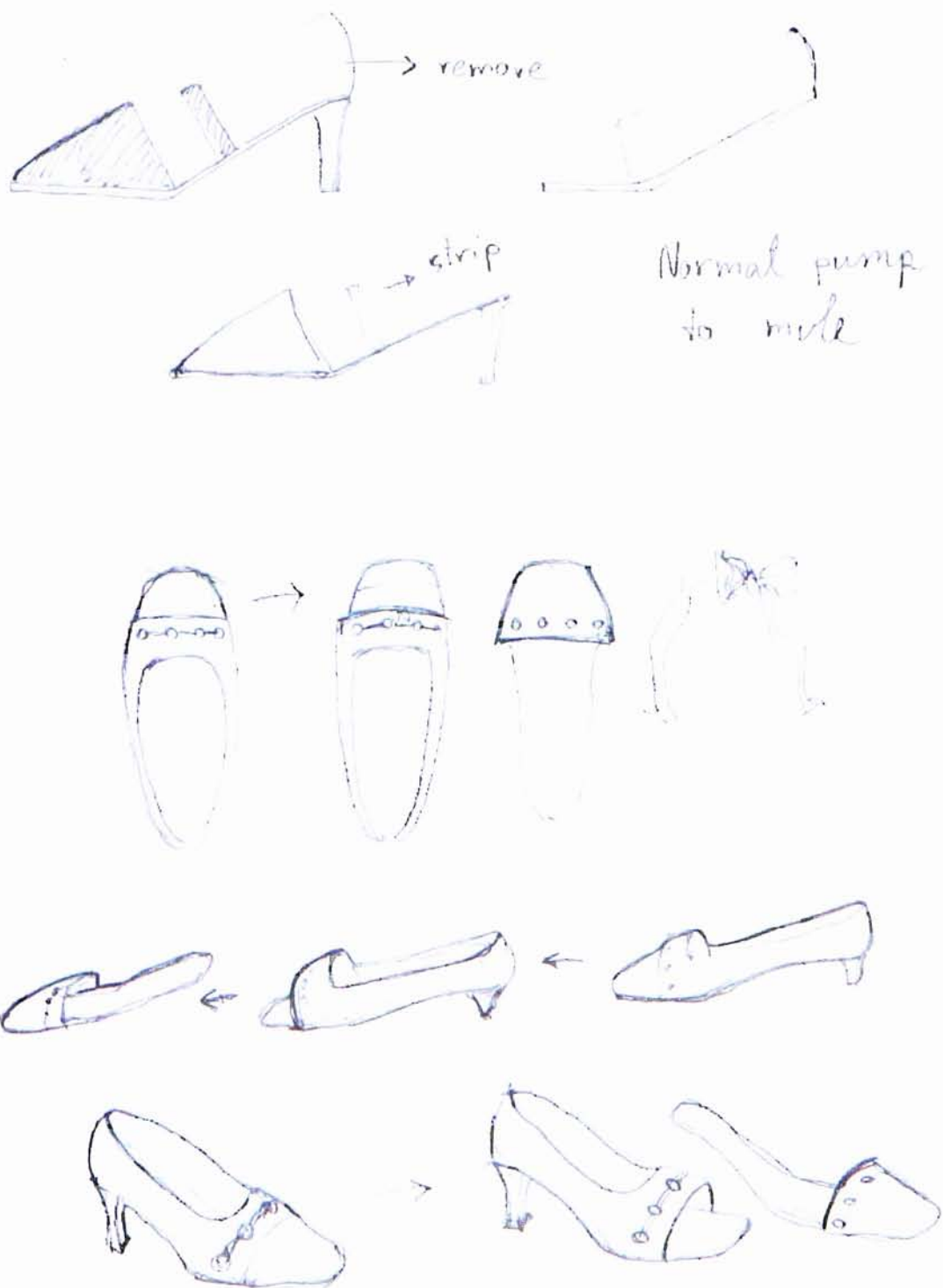


Fig. 48. Alternative concept sketch 5





## Design Development

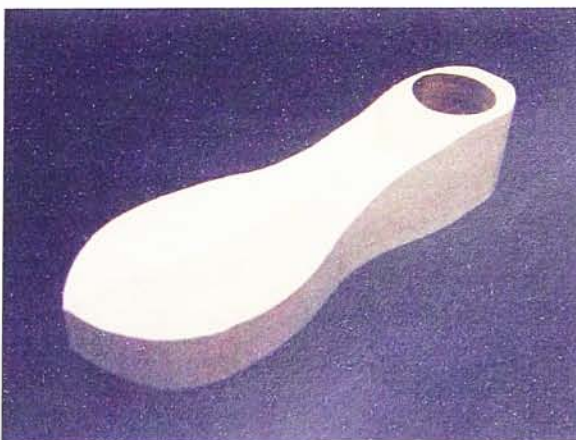
After experimenting with alternative sketches and initial brainstorming from the ideation stage, I had a better understanding of how to relate concepts with content. The following prototypes represent how design concepts could be incorporated into various unexpected materials and forms.

### First prototype



Fig. 49. First prototype made from clay

### Second prototype



The following image is a wood platform sole that has a hole in it, and it could be attached to regular height heel shoes. Then the heel would lock itself in the hole, which creates a new type of shoe.

Fig. 50. Second prototype



### Third prototype



Fig. 51. A pump and its accessories

### Forth prototype



Fig. 52. A pump with removable accessories

The third and the forth prototypes are pumps but have different types of removable accessories. The accessory of the third prototype is made of thread but the accessory of the forth prototype is made of beads. These removable parts add a glamorous touch to pumps that transforms them into evening shoes.

### Fifth Prototype



Fig. 53. A pump that able to change to a sandal

The fifth prototype is a pump that has a removable toe box, which transforms the pump to a sandal. This idea is based on two types of shoes that have a similar structure such as a shank (arch support) and a heel that can be combined together into a unique type of shoe. However, they have a minor change in look but a totally different type of category.

## Chapter 8: Final Design

The final design is a combination of the forth prototype and the fifth prototype together. The reason that I chose this as my final design is because the design had a high level of efficiency and addressed all of the problems, which were mentioned earlier on page 2 of this document. In addition, the design accomplishes my original intention, which is the creation of one type of shoe, a pump that is able to remove a toe box and then transform to a sandal and an evening shoe.

### Image Drawings illustrations



Fig. 54. Perspective illustration



Fig. 55. Top view illustration

### Demonstration Mock- up



Fig. 56. Show different parts and views of a mock-up



## Final Production

This type of shoe is able to transform into four different styles: pump, sandal, evening pump, and evening sandal. The shoe can change into different styles, which depends on the person who wears them. The shoe itself is made of four separate parts: sandal, vamp, beads and ankle strap. Furthermore, each part is able to attach back to the shoe. The shoes are also convenient for trips by minimizing the number of shoes in your luggage. It can transform to suit many different outfits for an upcoming event in a trip.

The reason that I chose a pump as the primary type of this design is because it is an everyday shoe, especially for businesswomen, who often need to dress professionally. Moreover, according to Kim France and Andrea Linett, both authors of the Lucky Shopping Manual, this type of shoe is a must for anyone to bring along on their business trips.



Fig. 57. Final production

The following figures show the different parts of the shoe and the different ways it could be transformed.

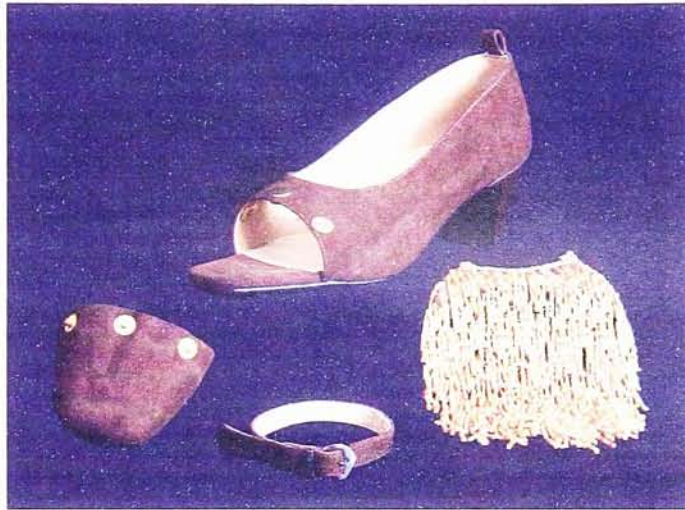


Fig. 58. Show different parts of a shoe



Fig. 59. A pump



Fig. 60. A pump with an ankle strap



Fig. 61. A Sandal



Fig. 62. A sandal with and ankle strap



Fig. 63. A pump with beads



Fig. 64. A sandal with beads

## About the Transformable Shoes

### What are the benefits of Transformable Shoes?

It is suitable for any woman who not only travels often but also has an issue with packing. Moreover, the shoes are very useful for businesswomen because they need compact packing. However, their outfits must be prepared for any upcoming situations or events. This type of shoe will help them minimize their packing space by reducing the number of shoes required in the luggage needed for a trip.

### How do Transformable Shoes work?

This type of shoe can transform into four different styles: pump, sandal, evening pump, and evening sandal. However, the shoes can change into different styles, depending on the person who wears them. The shoe itself combines four separate parts: sandal, vamp, beads and ankle strap. Furthermore, each part is able to attach back to a shoe.

### Where to get Transformable Shoes?

Because the target market for the Transformable Shoes is mainly focused on a group of traveling women professionals, the transformable shoes will initially be available in the travel section of retail specialty stores such Brookstone or Sharper Image. These stores, Brookstone and Sharper Image, offer new innovative products with distinctive design that would bestow the product a good image perception in the eyes of targeting customers who are looking for new practical traveling products in these stores.

After the Transformable Shoes become more known, the target market can be expanded into more than just serving the traveling women. The product can then be offered in department stores and specialty shoe stores with more variety of style to choose from under the same brand name to expand its sales.

## Conclusion

Personally, this thesis study increased my ability in the areas of research, analysis, and implementation. The process of organizing information, refining design decisions and implementing solutions was the most valuable skill I acquired. This skill will carry me forward as I embark on my design career. I will be able to assess client's needs, gather relevant information, and draw from my own experience and synthesize these components into thoughtful and appropriate solutions. Because I had to go through the full design process step by step, I became more fully aware of the difficulties that can be encountered in developing and implementing a design application. This experience assures that I will always remain aware of the vital interaction between clients' needs, project goals, and physical, emotional and psychological contexts in order to design an elegant and effective solution.

## Bibliography

- Blanchard, Tamsin. (2000). The shoe: best foot forward. London: Carlton books limited.
- Caovilla, Paola Buratto. (1998). Shoes: objects of art and Seduction. Milan: Skira.
- France, Kim and Linett, Andrea. (2003). The lucky shopping manual. New York: Gotham books.
- Meij, letse. (2002). Jan Janse master of shoe design. Gent: Snoeck-Ducaju & Zoon.
- Kippen, Cameron. The History of Shoes: Shoe Making.  
<<http://podiatry.curtin.edu.au/shoo.html>> {22 November 2003}
- O'Keeffe, Linda. (1996). Shoes: a celebration of pumps, sandals, slippers & more. New York: Workman Publishing Company, Inc.
- Pringle, Colombe. (1999). Roger Vivier. New York, Universe Publishing
- Hersey Custom Shoe Company,  
<<http://www.herseycustomshoe.com/anatomy2.html>> {24 September 2003}
- <<http://gsn.uk.net/shoe.html>> {24 September 2003}





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