

USE OF SURFACE TEXTILE MANIPULATION TO
CREATE A MINOAN CULTURE INFLUENCED
APPAREL COLLECTION

By

JENNA MASON

Master of Science in Design, Housing, and

Merchandising

Oklahoma State University

Stillwater, Oklahoma

2008

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
MASTER OF SCIENCE
December, 2008

USE OF SURFACE TEXTILE MANIPULATION TO
CREATE A MINOAN CULTURE INFLUENCED
APPAREL COLLECTION

Thesis Approved:

Dr. Cheryl Farr

Thesis Adviser

Dr. Randall Russ

Dr. Adriana Petrova

Dr. Jane Swinney

Dr. A. Gordon Emslie

Dean of the Graduate College

ACKNOWLEDGMENTS

I wanted to take this opportunity to thank everyone involved the process of my Design Thesis. First, I want to thank Vince Quevedo for all of his support throughout my first year of graduate school. The concept of this thesis was developed and narrowed to the final topic with his aid. I also learned a lot of dyeing techniques from his course DHM 5543 Textile Arts and Design. His creativity and willingness to experiment with techniques inspires me every day.

I would also like to thank Dr. Lynne Richards for teaching some of the techniques used throughout my thesis. I gained a lot of knowledge from her course DHM 5810 Decorative Fabrics that I directly infused into my thesis. The batik dyeing and use of structural beading to create a belt out of segmented copper came directly as inspiration from her course.

Dr. Cheryl Farr has been my advisor and committee head. I cannot thank her enough for all of her time and effort she has put into my work. Not only has she helped make the paper better overall, but her enthusiasm for my design work has been very encouraging. I would also like to thank Dr. Jane Swinney for being on my thesis committee. She spent so many hours reading draft after draft and she was always so willing to help. I will always appreciate all the help. I would also like to thank Dr. Randall Russ for agreeing to be a part of my committee. Not only for all of his support, it was great to have someone who was already interested in the Minoan culture to be a part of the process. I would also like to thank Dr. Adriana Petrova for also being a part of my committee. Her feedback was always very helpful and her knowledge of dyeing techniques greatly aided me in my work.

I want to thank my family and for all of their support during my thesis. Their constant support for what I love to do makes it possible for me to have done this thesis. I also want to thank Natalie for everything during this last semester of graduate school. Her support, positive attitude have helped me more than she knows. Lastly, I have to thank Danny for everything there is absolutely no way I could have done this without him.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION.....	1
II. SUMMARY OF SURVEYED RELATED WORK	6
III. METHODOLOGY: SUMMARY OF CREATIVE PROCESS PLAN	27
IV. RESULTS.....	33
V. CONCLUSION.....	58
REFERENCES	60

LIST OF FIGURES

Figure	Page
1: <i>The Parisienne</i> , fresco. Late Minoan	7
2: Knossos fresco women	9
3: Serpent Goddess	11
4: Batik process by Arnelle Dow	14
5: Batik by Billi R.S. Rothove	15
6: Batik placemat by Billi R.S. Rothove	15
7: Nouveau Shibori process by Judith Content	18
8: Nouveau Shibori by Judith Content	18
9: Alaskan Sunrise by Nanette Davis-Shaklho	19
10: Tied-Resist by Carter Smith	19
11: Forms of Tie and Dye	20
12: Shibori on PVC pole	29
13: Shibori unraveled	29
14: Tie dye with marbles	30
15: Tie dye with marbles once dyed	30
16: Tie dye techniques: pleat and bind, marbling	31
17: Tie dye techniques: after opening fabric	31
18: Garment One Initial Concept Design Sketch	33
19: Garment One Front and Back	34
20: Garment Two Initial Concept Design Sketch	37
21: Garment Two Front and Back	38

22: Garment Three Initial Concept Design Sketch	41
23: Garment Three Front and Back	42
24: Garment Four Initial Concept Design Sketch	45
25: Garment Four Front and Back	46
26: Garment Five Initial Concept Design Sketch	49
27: Garment Five Front and Back	50
28: Garment Six Initial Concept Design Sketch	53
29: Garment Six Front and Back	54

CHAPTER I

INTRODUCTION

Apparel design incorporates two critical and integrated components: textile design and garment design. The focus of this project was to design garments using cotton textiles and apply original surface manipulation. Methods of surface manipulation included various textile dyeing surface treatments. This project looked at the application of various dyeing techniques for garments inspired by the Minoan culture. This design project blended two different areas of interest; a) textile surface manipulation techniques and b) inspiration drawn from the Minoan time period. This project displayed a cross cultural inspiration by applying dyeing techniques and textile manipulation to develop Minoan culture inspired garments. The textile surface manipulation techniques that are featured in this project included a combination of methods that have been used in historic and modern cultures around the world. These manipulation techniques provided variety in this apparel collection. The Minoan culture and its appreciation of women's societal roles provided the inspiration for design silhouettes. Certain aspects from the garments worn by Minoan women were included throughout the project. By bringing these two facets together the project displayed a unique and cohesive collection. One hundred percent cotton textiles were used for all the garments in the collection. Cotton textiles are versatile and available in numerous weights and textures.

Cotton textiles are incorporated in this design project for four reasons:

1. Cotton is a very common textile used in clothing
2. Cotton provides a blank canvas to work with
3. Cotton is easily manipulated and has great dye-ability
4. Cotton offers many different weights and textures

Although cotton is a commonly used textile for clothing this project used cotton in a way that is unique and atypical for commercially focused apparel production. One of the outcomes of this project was to take cotton away from being thought of as a “t-shirt” fabric and use it to produce higher end avant-garde clothing. The second and third reasons for incorporating cotton in this project go hand in hand. Cotton does provide a great blank canvas to work with and it is also easily dyed. For these two reasons, cotton textiles showcased the surface manipulations techniques better than another textile fiber. Lastly, the different weights that cotton offers enabled the designs to be more versatile. These textiles ranged all the way from cheesecloth to bottom weight fabrics, thus presenting a multiplicity of textiles to work with.

Fabric manipulation techniques have been performed in many different cultures for many years. For the purposes of this project, the idea to integrate textile manipulation techniques was for the transformation they created in the outcome of the garment or textile. This project included different manipulation techniques, namely batik dyeing, tied-resist dyeing. These techniques were chosen because of their rich history within different cultures in the world. Many cultures used the same techniques in different ways. This project acknowledged those techniques and cultures while also incorporating new ideas and different ways of using dyeing techniques.

The inspiration for silhouettes were gathered from upper class women in the Minoan time period from 2700-1400 B.C. The reason for choosing the Minoan time period for inspiration was two-fold:

1. Minoan women were known to wear fitted clothing
2. Minoan women played a very central and pivotal role in society

Minoans were in fact one of the first recorded civilizations that had structured and fitted clothing for women. Minoans were not afraid to display the beauty of the human body, and Minoan women's clothing largely reflected this. Women were valued more in Minoan society than in most ancient cultures and even some modern cultures. This project focused specifically on the clothing of upper class women that were depicted in Minoan paintings and artifacts. High-end silhouette fashion designs were drawn from the tiered skirts, copper, and high-neck bodices that were prevalent in Minoan culture. This project also took a feminine approach to the design work due to the role that Minoan women played in their own society. Minoans' bodices revealed the breast with deep 'V' openings.

This project created a cohesive and distinctive collection of garments highlighting the Minoan influence in skirts and modernizing both bodice and skirt designs. Surface design techniques then provided color to the garments. The surface manipulation provided different styles and mixtures of color. The garments for this design project essentially started from the same stage, plain white cotton, but the treatments that were applied and the inspirations for each design yielded a completely different final product.

The purpose of this design project was to develop a collection of design work to showcase textile and garment design that had the potential to be commercially produced.

The focus of this project was to develop and execute a design problem that will integrate historically inspired contemporary apparel with original surface design fabrics. To summarize, this design project included the following:

- 1) Six garment designs inspired by upper class Minoan women, 2700 BC – 1400 BC
- 2) Design surface textiles using untreated cotton fabric for use in these garments, based on a variety of surface manipulation techniques
- 3) Produced garments from the textiles that were developed
- 4) To form an exhibition for the developed garments

Operational Definitions

Minoan civilization – An ancient civilization that existed on the island of Crete from 2700 B.C. to 1400 B.C.

Batik – Wax-resist technique used for dyeing cotton and silk fabric.

Shibori – A resist technique used to dye silk fabric by compressing fabric around a pole.

Tie-Dye – Resist dyeing process by which one binds fabric with strings or rubber bands to resist the dye in certain areas

Surface manipulation technique – Application of a dyeing technique or other embellishment to a textile.

Ducks cloth – A heavy, plain woven cotton fabric

CHAPTER II

SUMMARY OF SURVEYED RELATED WORK

Minoan Civilization & Culture

Minoan culture and civilization is believed to have existed on the island of Crete around 2700 B.C. to 1400 B.C. This period was also known as the Bronze Age. Some believe that this culture was very unique in the way that patriarchy was not nearly as prominent as in most ancient civilizations. There are a great number of theories of how the Minoans lived. Some believe that men and women may very well have carried an equal social status. Craig Barnes describes five themes that were central to the values of life with Minoans in Crete (Barnes, 2006). One of those themes is that the female principle is honored at the center of cultural life. Images of women were much greater in number than those of men and were central to their public life. Women would dress eloquently and were even honored as men would bring gifts (Barnes, 2006). This was far from the only theory that led to the belief that Minoan women were seen as equal to Minoan men. Other theories stemmed from the fact that female goddesses were worshipped in greater numbers than any male gods.

The Minoan women's position in society was quite fortunate in that men did not simply control every facet of their lives. Arthur Cotterell describes women's role as such for a variety of reasons that include the fact that women were not segregated from

activities. They often took place in bull games and participated in rites and ceremonies (Cotterell, 1979). There was evidence of priestly associations of women at palaces and holy places and priestesses usually received high social status. An example of this rests with the Queen of Knossos being considered superior in status to everyone but her own husband (Cotterell, 1979). Further evidence of high status roles women played in society includes children being named after their mothers more often than their fathers. The way Minoan women dressed largely reflected the concept of empowering women and often showcased beauty.

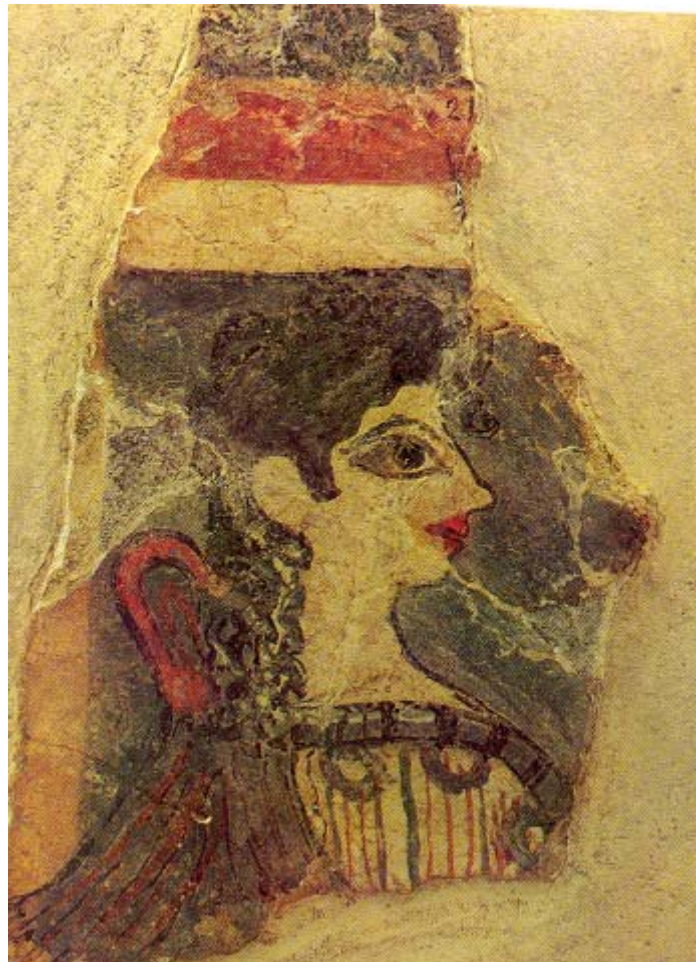


Figure 1: *The Parisienne*, fresco. Late Minoan (Cotterell, 1979)

Minoan Dress

Rodney Castleden, who studied Minoans and life in Crete during the Bronze Age, describes Minoan style as unmistakable, original, and intensely sensual (Castleden, 1990). They had a particular amusement in the absolute and complete physical beauty of the human body and attempted to accentuate that and emphasize it through the use of jewels, colored textiles, feathers, cosmetics, and gold (Castleden, 1990). Even the slightest of details carried great importance. Castleden explains that Minoans wished to make even the smallest of features or elements interesting to look at (Castleden, 1990).

To showcase their bodies, Minoan men were known to typically wear a simple loincloth that was tucked or just held up by a belt. Similarly, women's fashion consisted of an equal interest in displaying their body, albeit considerably more covered up (Castleden, 1990). Minoan women dressed in a way that showed they were unafraid of being showcased and were certainly not hiding. Women's apparel showed a great taste for vivid colors that would enhance decoration. The bodices, the skirts, and the extensive jewelry worn by Minoan women during this time were the clothes of women that fully expected to take the center of the social stage and atmosphere (Castleden, 1990).

Bodices

Castleden explains that Minoan women typically chose from two options for the bodice front (Castleden, 1990). They could either arrange the bodice to cover the breasts leaving only cleavage showing, which was thought to be the usual way to do it. Or they could pull the bodice slightly sideways to display the breasts, which was customary for religious ceremonies (Castleden, 1990). In either case, the bodice would rise to the high peak at the back of the woman's neck.

Likewise, Sinclair Hood extensively researched the Minoans and their dress. He took notice of the bodice being depicted as one piece along with the skirts, but having still been separate (Hood, 1971). Hood believed that it was characteristic of Minoan women to leave the breasts exposed (See Figure 2). However, they had collars rising in a high peak at the back of the woman's neck (Hood, 1971).

Whether the woman's breasts were exposed by the bodice or not, the upper body of Minoan women was typically on display one way or the other. Their dress tops would sometimes have short and tight sleeves in the same style of modern day t-shirts, but a deep slit in the front was always prominent. Minoan women had a certain amount of choices of what they would prefer to wear, which included a surprising garment-like corset (Boucher, 1965). At the same time though, their clothes were a great part of adhering to the idea that their bodies were on display and women in general were constantly at the heart and core of Minoan society.



Figure 2: Knossos fresco women (Cotterel, 1979)

Skirts

From pictures, statues, and depictions, one very noticeable feature of Minoan women's skirts were that they were often flounced and layered with tiers (See Figure 3). Castleden felt that many of their designs were intended to accentuate their full hips and slender wasp-waists (Castleden, 1990). He describes the statuette of a Snake Goddess who wore an embroidered double apron with a heavily flounced skirt underneath that contained seven overlapping layers of material. Each of these layers was colored differently and patterned in a variety of ways (Castleden, 1990). It was thought that Minoan priestesses might dress very similar to this. Basically, the tiers in women's skirts and the continuous nature of emphasizing the beauty in their bodies were staples in the creation of skirts and dresses.

Correspondingly, Sinclair Hood noted the flounced skirts and the tiers were very evident. Many of the statuettes were eloquently dressed, but the clothes worn by these depicted goddesses were essentially the same that were worn by Minoan women at the palace (Hood, 1971). The women often wore long skirts that were wound or knotted at the waist with girdles with the ends hanging down in front. They would also wear tight wide belts and a double apron descending down the back and front before concealing the top of the flounced skirts (Hood, 1971). Hood also explains how Minoan women's skirts developed a 'V' shape in the front.



Figure 3: Serpent goddess (Boucher, 1965)

Jewelry

More evidence of women's clothes being objects for display was in the excess jewelry that they would often wear. Rings, necklaces, bracelets were worn by women sometimes even on both arms (Boucher, 1965). The ordinary women wore necklaces that were typically made of common stones threaded together whereas the wealthier members of society wore necklaces made of blue steatite (Boucher, 1965). Women would also wear hair pins and other hair ornaments that were made of copper (Hood, 1971). Copper was often used for jewelry and other forms of ornamentation. Hood elaborates on Boucher's evidence by explaining how earrings were also worn and would typically be quite large and elaborate. Armlets, wristlets, and anklets of bronze and other precious

metals such as copper were worn as well. Necklaces could also be made out of beads, which came in a variety of shapes and sizes (Hood, 1971).

Dyeing Techniques

Fiber-reactive dyes have the ability to color fabric in a great number of ways. Each method has its advantages and disadvantages, depending on the desired final result. When dyes are applied to fabric, a chemical reaction occurs and the dye molecules bond with the fiber molecules. This process imparts color to a textile material at the garments, fabric, yarn or fibers level. Batik dyeing, and tied-resist dyeing are two such forms of dyeing. Within these two forms there are distinct techniques that utilize the form in different ways. Different cultures throughout the years have interpreted these two forms in unique ways.

The chemical bond that takes place between the dye and the fabric cannot be broken or reversed. Dyeing is different than painting textiles. Dyes for example do not change the hand of the fabric (Noble, 1998). Noble describes certain features that exist in dyeing and fiber-reactive dyes. Dye molecules are soluble in water and color the fabric all the way through (Noble, 1998).

Batik Dyeing

One of the many dye techniques included was Batik dyeing. The art and craft that is batik dyeing does not have a true, defined, and established origin but is presumed to be at least 2,000 years old (Keller, 1966). Keller explored a variety of the existing theories of where batik came from, but none of them confidently confirm the true origin (Keller, 1966). There is evidence of batik dyeing having been used in many different cultures. It is thought that if it originated in a civilization such as Egypt, it could have

easily spread to the rest of Africa and Persia and subsequently all the way to the Far East. Through this potential movement, the art of batik has adapted itself to the individual touch of each of these cultures and nations (Keller, 1966). Through the personal touch of all these cultures and through the many years that the art has existed, a modern form of batik dyeing has emerged.

Batik dyeing uses many utensils to achieve a desired final product. Figure 5 and Figure 6 show the different patterns that can be created in a final product through the use of batik dyeing. Keller outlines all the different tools or utensils that are typically necessary for modern batik dyeing. The art requires a wooden frame or stretcher, fabric, wax, a hotplate or burner, brushes, dye vat, a pan or double boiler, an immersable thermometer, dyes, rubber gloves, an iron, an ironing board, and absorbent paper (Keller, 1966).

Batik dyeing is a skill that requires a great deal of patience and time, something that is commonly lacking in Western culture (Keller, 1966). Many people have attempted to simplify certain aspects of the dyeing technique. One of the many factors that have been implemented in modern batik dyeing is the use of paraffin wax. Paraffin is a wax made from petroleum which tends to be very brittle after it dries on the fabric (Broughton, 1995). Paraffin will crackle when folding the fabric into a ball. Traditional batik used beeswax, which is more flexible and does not allow for crackling. By using a mixture of paraffin wax and beeswax one gets a combination of crackling and flexibility.

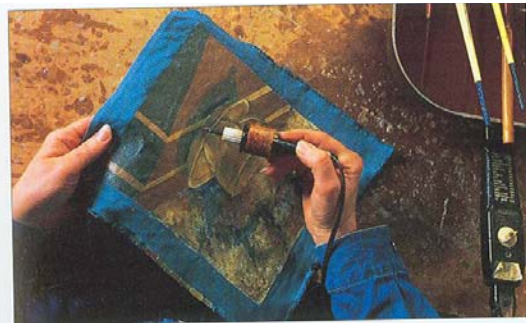
Typically, the process of batik dyeing starts out by stretching and securing fabric over a wooden frame. Next the design is painted with the wax on areas to remain undyed (See Figure 4, A). After the wax dries on the fabric one is able to paint colors onto

the material. The process allows the designer to layer different colors (See Figure 4, B). For example, to achieve a purple, one should layer red with blue. Once all the colors are added, cover the entire canvas with wax and let it dry again (See Figure 4, C). The next day place the fabric in a freezer for fifteen minutes, which makes the wax more brittle. Then crackle it by folding it into a ball and lay it back out over the wooden frame. Lastly, take a black dye and rub it all over to help create the crackling feature. Then wait once again and either get it dry cleaned or use a process of ironing (See Figure 4, D) to get the wax out (Keller, 1966).

A)



B)



C)



D)

Figure 4: Batik Process by Arnelle Dow (Broughton, 1995)



Figure 5: Batik by Billi R.S. Rothove (Broughton, 1995)



Figure 6: Batik placemat by Billi R.S. Rothove (Broughton, 1995)

Tied Resist Dyeing

There are a number of different tied-resist dyeing techniques, which include Shibori, Plangi, Chunri, and tie dye along with thousands of others (Broughton, 1995). Despite the terms, the concept is always the same. All of these techniques use some sort of device to section off parts of the fabric before dyeing. These devices can potentially be string, rubber bands, clamps, or needle and thread (Broughton, 1995). The idea

behind sectioning off portions of the fabric is that the devices and barriers will resist the penetration of the dye. Therefore, Broughton explains that unique patterns emerge when the device is removed from the finished product.

The application of the dye can be done in many ways. The fabric can be finger-dimpled or pulled into knobs, wrapped, and tied. The technique can also use rocks, corks, dowels, and buttons which can be placed under the fabric before it is tied (Broughton, 1995). Claire Polakoff studied the origins of tie and dye in Western Africa and determined two of the most prominent techniques utilized: 1) tie the fabric around a tiny kernel of guinea corn to form each minute circle, 2) they would fold a slight tuck into the textile, rolling a ridge of fabric over the tucked area and sew a whipping stitch neatly over the area of design before dipping it into the dye (Polakoff, 1971). Figure 11 shows a number of the different designs that can result from this technique.

Despite studying tie and dye in Western Africa, Polakoff engaged in qualitative research to find the origins of the art of tie and dye. Polakoff explains the techniques of tie and dye that have been practiced at some time in history by almost every country in the world (Polakoff, 1971). Her evidence shows that China, Japan, India, Indonesia, the Philippines, Russia, the United States, and many others are just a few of the nations that have practiced this art form.

Another form of tied-resist dyeing is Nouveau Shibori. Broughton explains the process that Judith Content, a shibori artist, used in administering this technique (Broughton, 1995). The first step is to secure the end of the fabric to a glass bottle with masking tape (See Figure 7, A). The fabric should be no longer than 24 inches long. Secondly, wrap the fabric around the bottle securing it as you go with rotations of thread

(See Figure 7, B). To achieve a desired design, wrap the thread however you would like. After this step one should hold the bottle with one hand and with the other twist the fabric while pushing it to the neck of the bottle (See Figure 7, C). Continue twisting and pushing until the fabric is pleated (See Figure 7, D). Then hold the bottle by its neck and submerge the bottle into the dye vat. One could potentially submerge the bottle upside down and let it rest along the top of your bucket of dye vat (See Figure 7, E). Then remove the masking tape from the top and bottom thread and the fabric should be delicately pleated (See Figure 7, F). Lastly, iron out the pleats if desired (Broughton, 1995). Figure 8 and Figure 9 show the different pleating that can result, depending on the method used to tie string around a bottle.

The materials and equipment used in this process include a large glass bottle, pre-washed fabric, rubber gloves, string of desired thickness to wrap around the bottle, acid of fiber-active dye, acetic acid or vinegar, masking tape, non-corrosive pot for each color used, hot plates or a stove, long-handled wooden or stainless-steel spoons, and long-handled measuring cup or ladle (Broughton, 1995). These materials can vary depending on the outcome that you wish to achieve.

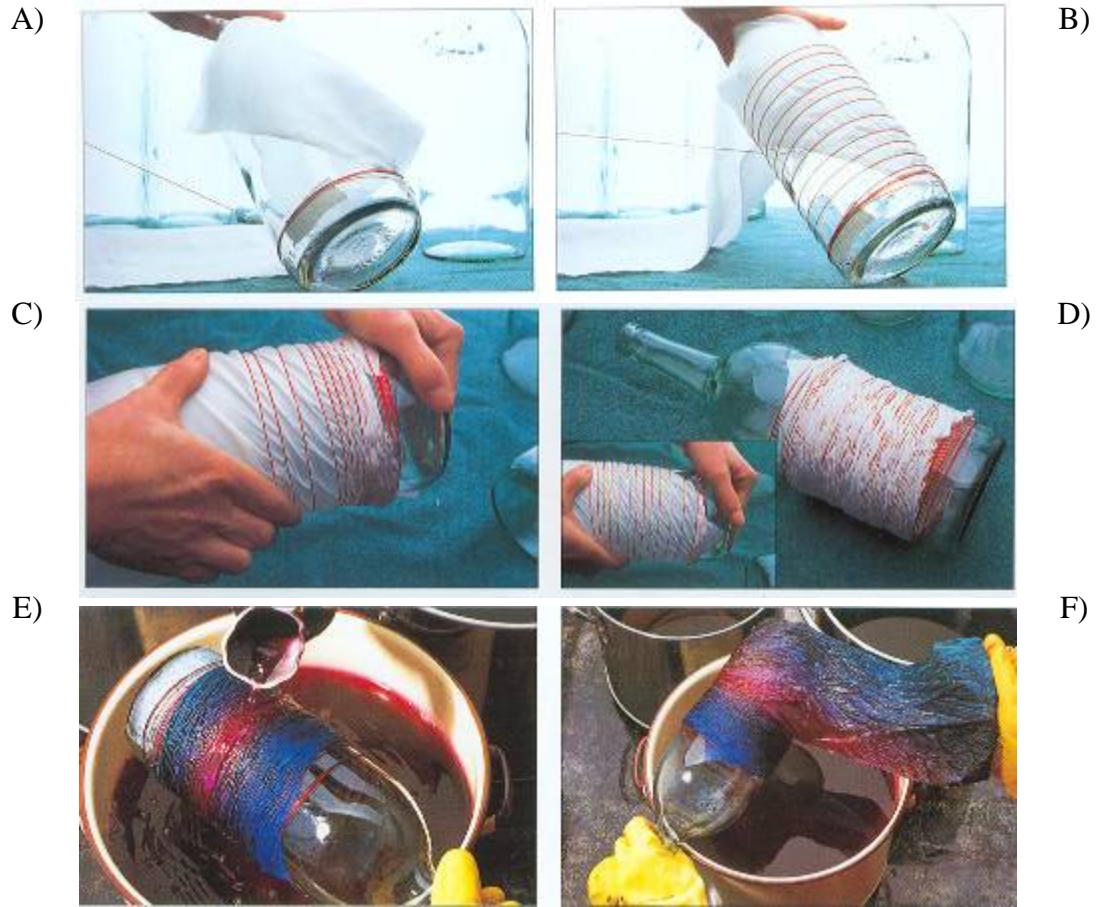


Figure 7: Nouveau Shibori process by Judith Content (Broughton, 1995)



Figure 8: Nouveau Shibori by Judith Content (Broughton, 1995)

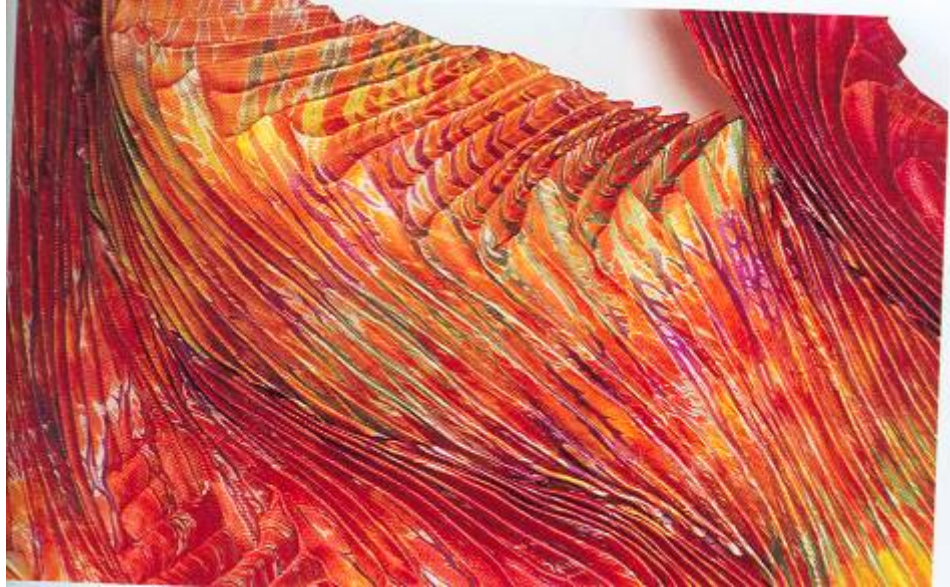


Figure 9: Alaskan Sunrise by Nanette Davis-Shaklho (Broughton, 1995)



Figure 10: Tied-Resist by Carter Smith (Broughton, 1995)



Figure 11: Forms of Tie and Dye (Polakoff, 1971)

Technology

In the early days when civilizations first began dyeing cloths and garments most dyeing was simply done by hand. However, since the 1970's there has been significant development in the amount of commercial dyeing, which has led to the necessity of machinery (Beech, 2007). These various machines are used for particular types of dyeing. Mommer's cop-dyeing machine is used for cop-dyeing. Cop-dyeing is where a person dyes the yarn in the hank form. Delahunty's dyeing machine, pictured below as Figure 12, on the other hand is used for dyeing loose or raw cotton (Beech, 2007).

Equipment

Without the use of dyeing machines, hand dyeing has its own necessary equipment. One of the common necessities for most forms of hand dyeing techniques is something to boil or heat substances, whether those substances are wax or water. However, the equipment necessary is most often going to vary depending on the technique that is chosen to perform.

Batik dyeing requires its own unique set of equipment. The key components necessary are a wooden frame to stretch out your fabric and a choice of combining beeswax and paraffin or using solely beeswax (Keller, 1966). Nouveau Shibori, a tied-resist technique needs a glass wine bottle or some other type of glass bottle to tie your fabric around (Broughton, 1995). For this technique you also need a tub to boil water in. These items are the most unique for the specific type of dyeing. The rest of the equipment necessary with these various techniques are often interchangeable.

Advantages and Disadvantages of Hand Dyeing

Hand dyeing and machine dyeing each has a number of advantages and disadvantages. Both hand dyeing and machine dyeing have their own specific need. The technological advances that have helped bring about a number of dyeing machines were done so in order to dye a greater amount of items. Hand dyeing on the other hand, which has been utilized for ages to dye materials started as a way to create distinction and beauty in garments.

One of the main objections and disadvantages to hand dyeing has always been the amount of time that it requires. Batik dyeing, as was mentioned earlier, takes a great deal of patience and time. However, many implementations have addressed this objection. Ila Keller goes as far to say if you are the forever-short-of-time type, do not even bother getting involved in this craft because the results can be severely dampened if the process is rushed (Keller, 1966). Likewise, tied-resist dyeing can take a great deal of time. Claire Polakoff's study of tie and dye in Africa described one common form which involved tying fabric around hundreds of tiny kernels of corn (Polakoff, 1971). This process could take a great deal of time. On the other hand, if performed correctly and

taking the necessary time, hand dyeing can create beautiful, intricately detailed designs that have a very personal touch. Whether it is tie and dye or batik, these dyeing techniques have the capability of creating extremely unique textile surface manipulations.

The main disadvantage of using machines to dye is the loss of a creative personal touch. Machines often produce the same type and result over and over again. The dyeing lacks a certain uniqueness that hand dyeing contains. However, the use of machines can also enhance consistency in the dyeing process. The use of machines to dye allows more room for error whereas with hand dyeing, a person has much less room for mistakes.

With the technological advances of machine dyeing, both machine dyeing and hand dyeing are capable of adhering to a variety of forms of fabric and raw fibers. The main difference between these two types of dyeing is that hand dyeing uses a variety of dye tubs and vats whereas dyeing machines take care of the handling and working of materials being dyed through a mechanical means (Beech, 2007).

Textiles

Cotton is the fiber that can be used in many different fabrics. There are a variety of staple cotton fabrics. John Hoye provides names, descriptions, finishes, and uses of different cotton fabrics (Hoye, 1942). Plain-woven fabrics, leno-woven fabrics, twill-woven fabrics, satin-woven grey good fabrics, can be modified for use as towelings, tickings, flannels, and corset fabrics (Hoye, 1942). Some of these types of cotton fabrics include cheesecloth, broadcloth, duck cloth, velveteen, voile, sateen, denim, and lawn. Several cotton fabrics commonly used for resist dyeing include broadcloth, sateen, and voile.

Cheesecloth

Cheesecloth is very loosely woven, thin, and light weight. These cloths are always carded and use open construction (Hoye, 1942). Cheesecloth can come in a variety of thread counts and can range from an open weave to an extra-fine weave. It is used in a variety of ways, some which stray far away from wearable garments. In finished state cheesecloth can be used for curtains, bedspreads, interlinings and a variety of non-garment end-uses including, cheese making cloth, surgical gauzes, and bandages (Hoye, 1942).

Duck Cloth

Often referred to as canvas, duck cloth is very heavy and strong (Hoye, 1942). It can be used in many ways, one of which is to add stability to something such as a waist band. Due to its heavy and strong nature it has the capability to bind or fasten things easily. There are many kinds of duck cloths and many different purposes. It is often referred to as canvas because it almost has the weight and the texture of canvas, but it has the flex and drape of heavy jackets.

Broadcloth

Broadcloth is typically a medium weight cotton fabric and is very tightly woven. It can provide a ribbed effect and a plain weave. Mercerized combed cotton broadcloth typically takes dyes well and will shrink considerably less. Finished broadcloths can provide a soft and silky texture (Hoye, 1942). Hoye lists a variety of uses for broadcloth that include shirts, blouses, uniforms, pajamas, shorts, and even sportswear (Hoye, 1942).

Velveteen

Velveteen is essentially a cotton cloth that is intended to imitate velvet fabrics. It is a very soft and rich cotton. It tends to take dye very well and is stronger and denser than a rayon/silk velvet. Velveteen is usually twill woven and is a filling-pile fabric (Hoye, 1942). Cotton velveteen can often help one to achieve a higher-end look while still keeping the cost down by not having to purchase real velvet, which can run considerably higher.

Voile

Voile cotton fabric is usually very bright and sheer. It has a tight weave and a nice sheen. The feel of voile cotton is very smooth and silky. Voile is very light weight and has round yarns. It is made of hard-twisted combed yarns (Hoye, 1942). Sometimes with the construction using hard-twist ply yarns, voile has crispness, body, and a draping quality that usually cannot be found in fabrics of its light weight (Hoye, 1942).

Voile can be used in a variety of ways. The best voiles are imported from France and England where it is commonly used in curtains because of the semi-transparent quality that it can provide. Other uses in a finished state include dresses, blouses, bedspreads, draperies, and doll dresses (Hoye, 1942).

Sateen

Sateen is a cotton fabric that is soft and is finely woven. It reacts very well with fiber reactive dyes. It has a very smooth finish on one side and a silky sheen. Sateen has a satin-like finish due to the woven structure. The woven structure is four threads over one thread under. The silky sheen is derived from this particular weave. Sateen also has

many uses in the finished state. These uses can typically include pajamas, slips, shirts, and draperies (Hoye, 1942).

Warp-faced Twills

Due to the twill weave, it will recover from wrinkling much easier than plain woven garments. It also allows the fabric to be more air and water resistant. This twill almost always has lighter yarns than most cotton fabrics and has a much finer twill effect (Hoye, 1942). There are numerous fabrics that fall under warp-faced twills such as lining twill, Denim, Jean, Covert, Chino and Gabardine (Kadolph, 2007). Warp-faced twills are utilized in garments such as overalls and corsets (Hoye, 1942). It can also be used for shoe linings, bags, and jackets.

Combed Cotton Lawn

Lawn cloth is very light weight and sheer. It is known for its semi-transparency. It is a plain-woven gray cloth made in various qualities used in the converting of fine, soft, sheer fabrics (Hoye, 1942). The sheerness and crispness are due to the acid finish applied to the grey good (Kadolph, 2007). Lawn cloths can be given several finishes and often go by the finish type name. Two of the common names are voile and organdy. When in the finished state, lawn cloth can be used for dresses, pajamas, lingerie, collars, and cuffs (Hoye, 1942).

Dyes

It is critical to understand the various dyes before engaging in a dyeing process. Some dyes have a better effect on cotton textiles than others. According to chemical composition and constitution dyes can potentially be divided into seventeen or eighteen distinct groups (Beech, 2007). However, the five groups most necessary to have an

understanding of are direct dyes, basic dyes, acid dyes, mordant dyes, and miscellaneous dyes (Beech, 2007). This project will utilize only direct dyes.

Direct dyes are capable of dyeing cotton and linen and do not need to have the fibers prepared. There are basic dyes which require cotton to be prepared in baths of tannic acid or some other form of tanning material. Acid dyes are capable of dyeing wool and silk from baths. However, they do not dye cotton or linen particularly well. Mordant dyes require cotton to be prepared with some metallic oxide before engaging in the dyeing process. Miscellaneous dyes, such as indigo, are dyed onto cotton through various processes (Beech, 2007).

Direct dyes have helped to revolutionize cotton dyeing. The only thing necessary to partake in this process is to prepare a dye liquor containing the necessary elements. The cotton then needs to be placed in a lukewarm or hot bath, raise it to a boil, allow the fabric to remain in the bath for a brief period, and finally remove the fabric out and wash and dry it (Beech, 2007). Beech explains that despite the simplistic nature of this process, a great variety of shades and tints can still be achieved from direct dyes.

CHAPTER III

METHODOLOGY: SUMMARY OF CREATIVE PROCESS PLAN

The first aspect of the proposed creative process was to identify the theme for the body of work. The cohesiveness of the design thesis is found in two areas. First, the core principle of the design thesis is the use of only cotton fibers. The second aspect that makes the design thesis interconnected is the inspiration pulled from the Minoan time period. Together, the use of cotton and Minoan inspiration help achieve the goal of showing the versatility of one fiber, by creating six completely different garments.

Following concept development, research was done on Minoan clothing, dyeing techniques and cotton. Initial research on Minoan clothing and culture was gathered. The purpose was not to recreate Minoan clothing, rather to use the clothing and culture as a point of inspiration. The research highlighted key design elements that were integrated into the designs. A few of the major points that were incorporated are the use of vivid colors, emphasized waist, emphasized sleeves, and tiered garments (Boucher, 1965).

Once the subject matter was outlined dyeing techniques were researched. The dyeing techniques used were a vital part of the creative process. Since each garment started from the same place, 100% white cotton, the technique used was crucial.

The techniques used were essential in order to produce garments that varied dramatically. The techniques that were utilized included: batik, and tied-resist techniques that encompass nouveau shibori and tie dye. Prior to dyeing the actual garments in-depth experimentation was performed using the various types of dyeing techniques. These techniques were performed on the specific type of cotton that was used in each of the garments.

One of the tied-resist dyeing techniques utilized was Nouveau Shibori. Nouveau Shibori has typically only been used for silk fabrics (Broughton, 1995). Obviously, for the purposes of this design thesis the plan was to use this technique with cotton fabric. Instead of always using the same string to pleat the fabric, other methods were tried using items such as nylon string or even rubber bands to see what it does to the fabric during the dyeing process. Attempts were also made to use different forms of dye application. One of these applications was to submerge the fabric in the dye vat, but pouring or spraying dye onto the fabric was also attempted.



Figure 12: Shibori on PVC pole



Figure 13: Shibori unraveled

Another form of tied-resist dyeing is the tie and dye technique. In other cultures fabric was tied around tiny guinea corn kernels and dipped into the dye to provide a very intricate design (Polakoff, 1971). Instead of using hundreds of tiny kernels of corn, this

project used fabric tied around marbles with rubber bands. The area that was tied around the marble remained white and offered interesting patterns.



Figure 14: Tie dye with marbles



Figure 15: Tie dye with marbles once dyed



Figure 16: Tie dye techniques: pleat and bind, marbling

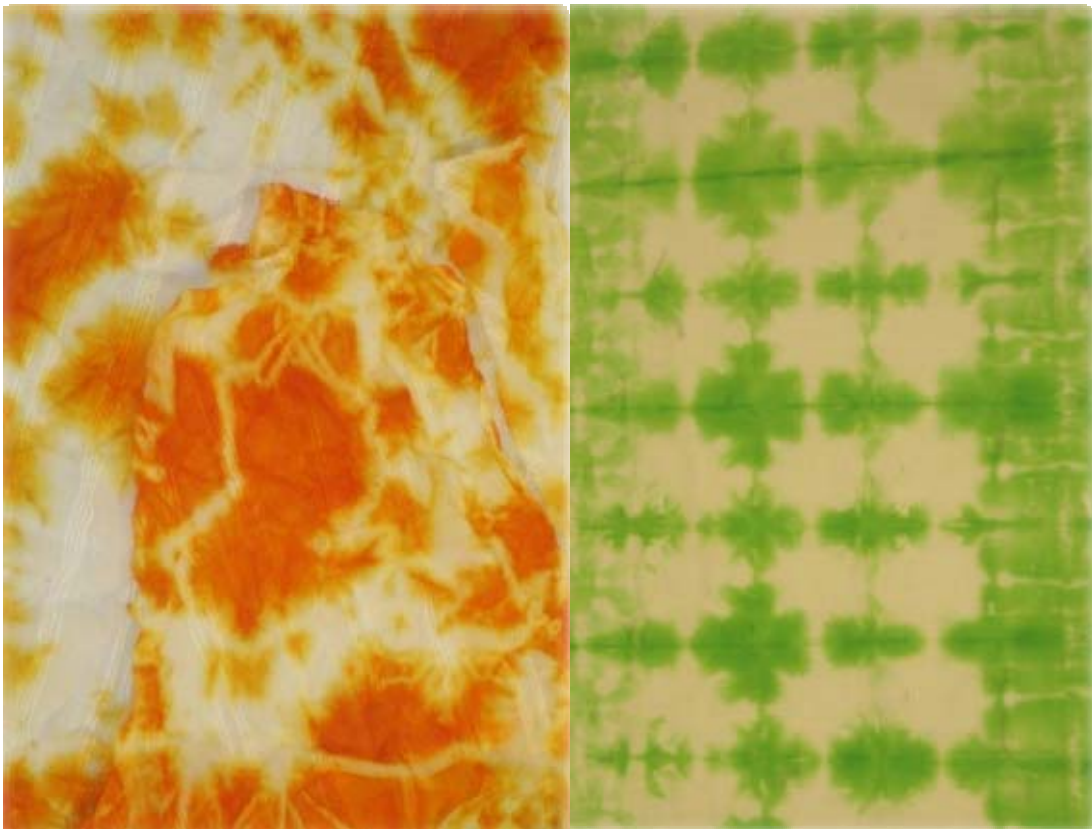


Figure 17: Tie dye techniques: after opening fabric

Batik dyeing is another surface design technique that was used for this thesis. Batik dyeing has a very extensive history that includes a vast history in Indonesia. Historically batik does not use paraffin wax, because it causes a crackle in the pattern. The crackling gives the batik work a vein-like look, which traditionally was considered poor quality (Keller, 1966). They strictly used beeswax because it would bend rather than crackle (Keller, 1966). However, the plan was to use a mixture of paraffin wax with beeswax. By mixing the two, the idea was to try to create some middle ground.

The next step in the process was to integrate the elements of Minoan cultural influence, varied cotton textiles, and two distinct dyeing techniques to create garment designs. Careful attention was paid to incorporate all aspects into the garment designs. Not only did the garments incorporate the subject matter, but they also as a whole appeared to be a cohesive unit. Once the garment designs were decided upon, both flat patterning and draping techniques were utilized. Once the patterns were developed, the fabric was cut out. After the fabric was cut, the dyeing techniques were applied. This insured that the silhouettes were fully developed prior to doing the surface applications. Designs were based around the silhouette rather than the surface design. Work on the full collection was continuous as one silhouette was developed another garment was in the surface manipulation phase. Both machine and hand sewing techniques were used in the construction of the garments. Following the construction of the garments a written document of this process was included in the final design thesis manuscript. After approval by the design thesis committee, the collection was displayed in an exhibition in the Design, Housing and Merchandising Gallery.

CHAPTER IV

RESULTS

Garment One



Figure 18: Garment One Initial Concept Design Sketch



Figure 19: Garment One Front and Back

Inspiration

This garment was inspired by the Minoan use of tiers and the 'v' shape. The tiers used in this garment are prevalent in the skirt. Five different layers of horizontal tiers were used to compose the skirt. Minoan women's dress often consisted of the 'v' shape in the front of skirts. This garment utilized the 'v' shape in the bodice. A deep 'v' is showcased in the front and back of this bodice, outlined with cheesecloth. Minoans often used copper in their dress, so for this garment, a copper belt was constructed. This garment was two separate pieces the bodice and the skirt (See Figure 19). The skirt was A-line with five tiers of cheesecloth going horizontally down the skirt. The bodice was a deep 'v' shape in the front as well as the back.

Bodice dyeing and construction

Both the skirt and the bodice were dipped into the same bath of blue dye in order to maintain color consistency throughout the garment. The cheesecloth was draped on the dress form and pinned into place. To get the lift off the shoulder, a fabric stiffener was painted onto the cheesecloth to give it body. The other portion of the bodice was also draped on the dress form. Two darts were used in the front, to keep the bodice form fitting. Once the bodice was constructed, bias tape was made from the same fabric to bind the bodice to the cheesecloth.

Skirt construction

The skirt was flat patterned out of broadcloth cotton. Once constructed, it was cut horizontally into five sections, where the tiers were going to be placed. Next, the cheesecloth was gathered at the top and sewn into the various tiered layers. The same thing was performed for each tier. A lining was then made and the waist band was sewn on.

Successes

This garment was intended to create a traditional Minoan look. It was intended to showcase the use of tiers, but also utilize the 'v' shape in a different way. The 'v' shape was more commonly used in skirts and this garment showcased it in the bodice.

Limitations

Cheesecloth is very difficult to work with. It tends to stick, it rips easily, and it requires a lot of attention in regards to pressing the fabric.

Capability for Mass Production

For this garment to be commercially produced, it would have to be made out of something other than cheesecloth. It would be more realistic to produce this garment with voile cotton because it is not as delicate as cheesecloth. The structural beading on the copper belt would likely not be mass produced either, but this garment could be produced with any other belt. The dyeing of this garment could be easily reproduced because it is a solid blue, but the rest of the garment would need to be altered in order to be produced on a larger scale. Although the fabric would be changed and the same belt would not be used, the integrity of the initial design concept would be maintained.

Garment Two

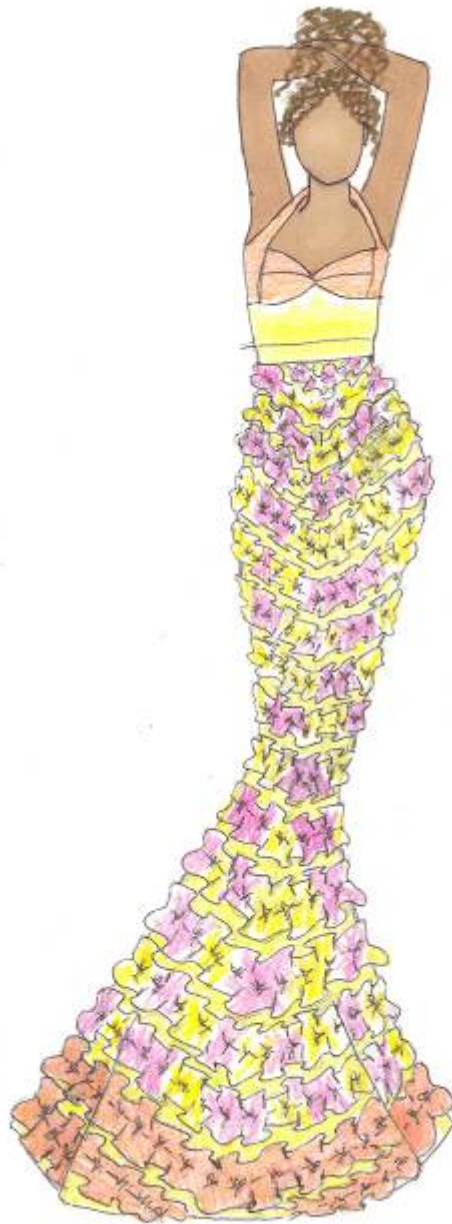


Figure 20: Garment Two Initial Concept Design Sketch



Figure 21: Garment Two Front and Back

Inspiration

The inspiration for this two piece garment came from the use of the 'v' shape. Minoan women's skirts often featured a 'v' shape in the front. For this garment, the skirt consists of strips of fabric that form 'v' shapes up and down the front and back of the skirt. It is also very form-fitting to the body. The skirt accentuates the waist and the hips. This garment also offers a more traditional look, something that a Minoan woman may have actually worn. This garment consisted of two separate pieces (See Figure 21). The bodice of this garment was a halter top that fastened at the back of the neck. The skirt was an eight panel trumpet skirt.

Bodice dyeing and construction

The bodice was draped on the dress form and was constructed out of a knit cotton fabric. The construction only required the use of an overlock machine. A tie-dye surface manipulation technique was performed on the bodice of this garment. The bodice was constructed completely before it was dyed. Elastics were put around the middle of the bodice and then each side of the garment was dipped into a different color dye bath. The top of the bodice was dipped into an orange dye, whereas the bottom portion of the bodice was dipped into a yellow dye bath.

Skirt dyeing and construction

Tie and dye was also used for the skirt of this garment. To dye the skirt, marbles were tied periodically into seven yards of white broadcloth cotton. After tying marbles throughout the fabric, different portions of the fabric were dipped into yellow and fuchsia dye baths. The yellow and fuchsia were alternated leaving white gaps in between each color. Next, strips of the dyed fabric were cut into two different sizes. Two inch strips were cut and were used from the waist to the knee. Then four inch strips were used from the knee down. After being cut, the strips were pressed and a gathering stitch was sewn down the middle of each, and the strips were gathered. The strips were then pinned to the skirt in a 'v' formation and sewn on. The base skirt for this garment was flat patterned, and constructed from kona cotton. The strips of this garment were cut from broadcloth cotton.

Successes

This garment was very successful in creating a more traditional look. The idea was to create a collection that consisted of some modern looks, but also some traditional looks.

Dyeing the skirt was another success. Some uncertainty existed in terms of how the marbles would resist the dye. But it turned out exactly as planned.

Limitations

One challenge that had to be overcome when starting this skirt was the uncertainty about how much fabric would be necessary. Seven yards of fabric was dyed because it was unknown how many strips of fabric it would take to cover the entire skirt. Another limitation was finding a way to match the colors of the skirt and the bodice. The skirt and bodice use two different kinds of fabric and dyes occasionally cause color changes depending on the surface used. So it was difficult to match the orange in the skirt and the orange on the top. The top needed to be dipped in the orange dye for a longer period of time because the knit cotton did not hold the dye well at first.

Capability for Mass Production

For this garment, the tie and dye would not be reproduced on a larger scale, but it could easily be screen printed. The gathering strips on the skirt could easily be reproduced on a larger scale. The only part of this garment that would not to be slightly altered is the dyeing process. The same fabric can be used for mass production and the concept of the design is something that could be commercially produced.

Garment Three



Figure 22: Garment Three Initial Concept Design Sketch



Figure 23: Garment Three Front and Back

Inspiration

The main inspiration for creating a garment with pants was that the collection intended to show a progression. The garment shows a number of elements from Minoan dress as well. The top is form-fitting and the jacket showcases a high-neck and emphasized sleeves. The pants also show a different way to do tiers. This garment consisted of three separate pieces, the pants, bodice and cropped jacket (See Figure 23). The pants were a high waist wide leg pant. The bodice was a version of a corset constructed from copper, and the jacket was a cropped jacket with puff cap sleeves and a high neck.

Bodice dyeing and construction

The surface manipulation technique used for the jacket was batik. The pattern used in the jacket is a pattern found on Minoan artifacts. The bias tape was dyed orange to match the

orange in the jacket. The bodice top was constructed out of copper mesh, and was lined with a dyed brown cotton fabric. The jacket was draped with muslin on a dress form. Once the pattern was developed it was cut out of sateen cotton. The batik was done prior to the jacket being constructed. Each part of the jacket was dyed separately and then it was sewn together. The sleeves were gathered and the edges were finished with a bias tape. A ruffle was added to create a high-neck. After constructing the jacket the bodice top was then draped on a dress form. It was then made into a pattern, cut out, and laced down the center back.

Pant dyeing and construction

Four layers of cotton, kona cotton, egyptian cotton, broadcloth cotton and sateen cotton were used for the pants and each was dyed separately after being cut out. All four layers were cut out on the bias so that the edges would not fray. The blue layer was dyed in a washing machine in order to have color consistency. The green and orange layers utilized tie and dye techniques. The green layer used a pleat and bind technique and the orange layer used a marbling technique. The last layer, the brown, was dyed in a brown dye bath. All the layers were then placed on top of each other. The brown layer went on top, then the green, followed by the orange, and the bottom layer was the blue. The layers were sewn around the outer edge to make four pieces of fabric behave as one, so that the channel stitching would be easier. Once the layers were sewn together around the edges, channel stitching was done on the front and back legs. After the channel stitching, the pieces were sewn together and fully constructed. Then the pants were slit through the middle of the channel stitching through every layer except for the blue layer.

The waistband was sewn on once all the slits were made. The seam allowances on the inside of the pants were bound with bias tape.

Successes

The colors used in the pant were very successful. The blue, green, and orange layers underneath the pants peeked through very well. The garment was also successful in providing a pant that was not bulky. When the channel stitching was done, the pants felt extremely bulky, but after the slits were made, a lot of the weight was relieved. The batik dyeing used on the jacket was also very successful. Until the wax was taken off, there was uncertainty of how the crackling would look, but the jacket turned out better than planned, and thus is considered a great success. The top was also a success. It turned out to be very sleek since the pants and the jacket have so much going on.

Limitations

It was very difficult to sew the channel stitching along the bias for the pants. It constantly had to be pressed to keep it from shifting.

Capability for Mass Production

This garment is less likely to be mass produced because the pants are very labor intensive. It would be considered more of a boutique item because of its higher price tag. The jacket would not be done in batik and would have to be screen printed. The textile print could easily be screen printed for mass production. The copper bodice is the most unrealistic part for commercial production with this garment. However, the same design could be used with a different textile. The design itself would not be difficult to reproduce, but the textile that was used is very unlikely to be produced on a large scale.

Garment Four



Figure 24: Garment Four Initial Concept Design Sketch



Figure 25: Garment Four Front and Back

Inspiration

The inspiration for this garment largely came from the Minoan's common use of corsets in their dress. This garment offered a different point of view for a corset by using a twist in the front. It also is form-fitting and emphasizes the waist. Minoans were also well known for constructing garments that were two pieces, but made to look as one. This garment offered two separate pieces with the bodice and the skirt, but appears to be just one garment piece. The two pieces that made up this garment were the bodice and skirt (See Figure 25). The bodice was a version of a corset with boning and lacing down the back but offered an interesting twist in the fabric in the front of the bodice. The skirt of this garment was a tulip skirt with a waist band.

Bodice dyeing and construction

The bodice of this garment was dyed using the Nouveau Shibori surface manipulation technique. A three inch PVC pipe was used to rotate the fabric around and was then secured using masking tape. Rubber bands were then used to resist the dye. After scrunching the fabric down toward the bottom of the PVC pipe, blue and red dyes were poured onto the fabric. The rubber bands were successful in resisting the dye to create the traditional shibori color variations. The waistband for this garment used a batik surface manipulation technique. The pattern used for the waistband was a pattern found in Minoan artifacts. After the batik process was completed, it was placed in the freezer for fifteen minutes. After fifteen minutes the waistband was removed from the freezer. Next the waistband was crackled and a purple dye was rubbed into the cracks. The bodice was flat patterned and constructed from kona cotton. The bodice consists of three different layers. First there is the overlay, which is what twists in the front, then the bodice itself, and lastly the lining.

Skirt dyeing and construction

The garment skirt was constructed out of sateen fabric and dyed in a red dye bath. At first the dye turned the sateen into a shade of pink. In order to darken the dye, it was simply submerged longer and eventually a darker shade of red was achieved. The skirt was flat patterned and constructed from sateen cotton. The skirt has four pleats in the front and four in the back. It emphasizes the waist and the hips because of the tight waistband. An invisible zipper was sewn in the side of the skirt.

Successes

This garment was intended to be very simple, but chic at the same time. Minoans are the first documented civilization that wore form fitting corset bodices. This garment was successful in creating a bodice that was corset-like, but the twist in the front offers a different point of view for a modern corset-like bodice.

Limitations

One challenge that this garment presented was finding a way to mix two different forms of dyeing alongside one another. The bodice of this garment used Nouveau Shibori while the waistband used batik dyeing. The challenge presented by this came from using the same colors. It was unknown how the use of red and blue dyes for batik would look alongside red and blue dyes for Nouveau Shibori. The use of crackling with the waistband helped offset this. Prior to the crackling, the waistband and the bodice were competing for attention. However, they complemented each other after adding the purple crackling to the waistband.

Capability for Mass Production

This garment could easily be translated into mass production. The top, which was done in shibori, could be screen printed. The textile design for the waistband on the skirt, which was done in batik, could also be reproduced using screen printing. The skirt is one solid color and could also be easily reproduced on a large scale. The design as a whole for this garment could easily be produced because the tulip skirt would not be difficult to reproduce and the bodice pattern has the ability to be mass produced.

Garment Five



Figure 26: Garment Five Initial Concept Design Sketch



Figure 27: Garment Five Front and Back

Inspiration

Tiers were a common element in Minoan women's clothing. However, the tiers were prevalent in women's skirts. The use of tiers was the main inspiration for this garment, but it applies the idea of tiers to the bodice in a modern way. This garment consisted of two separate pieces, a pant and a bodice (See Figure 27). The pants are high waist straight leg pant. The bodice top was a one shoulder top with two layers of cheesecloth sewn to the top.

Bodice dyeing and construction

Tie and dye was the technique used for the bodice of this garment. The fabric, cheesecloth, was rolled, and then three rubber bands were tied around the cheesecloth. The rubber bands were spaced evenly down the cheesecloth. This was done twice for

two pieces of cheesecloth because two layers were used on the bodice. The bodice was draped onto a dress form. It was pleated on the dress form and was hand sewn while still on the dress form to keep the pleats in. The second part of the bodice, underneath the cheesecloth, knit cotton, was also draped on a dress form and sewn together.

Pant dyeing and construction

The pants were dyed in a washing machine using a gray dye. This dyeing was done in a washing machine in order to increase consistency of the color. The pants were flat patterned and constructed from broadcloth cotton. They were intended to be a very sleek pant, so no darts were used in the front and two darts were used in the back.

Successes

This garment was very successful in terms of taking an idea that was commonly used for skirts and applying it to a bodice. The garment was also successful because the top and the pants balance one another. The dyeing technique used for the top was also a success. The garment utilized the tie and dye technique in a very chic, modern way.

Limitations

The cheesecloth top was the inspiration for this garment and because of its fullness, it was important to balance out the bottom. A number of ideas were sifted through before coming to the conclusion that a sleek, straight legged pant would be best. The cheesecloth has so much volume and in order to have a balanced garment the pants needed to remain simple. Another obstacle with this garment came from the use of cheesecloth. Cheesecloth is very difficult to work with when constructing a garment because it unravels easily, tends to stick, and it requires a lot of attention in regards to pressing the fabric.

Capability for Mass Production

The only part of this garment that would need to be altered in order to be mass produced is the top. The top is made out of cheesecloth and thus is too delicate for everyday wear and tear. It would need to be made out of voile cotton or something similar to it. The pants could easily be mass produced. The pants are one solid color and are a straight legged pant that would have no problem being commercially produced.

Garment Six



Figure 28: Garment Six Initial Concept Design Sketch



Figure 29: Garment Six Front and Back

Inspiration

This garment was inspired by a variety of features from Minoan culture. First and foremost, the design was intended to showcase beauty. Unlike many ancient civilizations, the Minoan culture did not intend to cover women up. The Minoan culture had a particular amusement for the complete physical beauty of the human form. Along the same lines, Minoan women's clothing was often form-fitting. The bodice of this garment is fit tightly to the body. The skirt of this garment was inspired by Minoan's common use of tiers. The skirts worn by Minoan women often consisted of multiple tiers or flounces to emphasize their full hips and slender waists. However, instead of using horizontal tiers, this garment showcases vertical tiers in the skirt. This garment consisted of one piece the dress (See Figure 29). The dress was a strapless, and was pleated on the

bodice top. The under layer of the dress skirt was form fitting with strips of organdy sewn on to the dress vertically.

Bodice dyeing and construction

The garment bodice was constructed from kona cotton fabric. The surface design technique utilized for this garment was Nouveau Shibori. A three inch PVC pipe was used to place the fabric on. When attempting to perform the technique with a glass wine bottle, the amount of fabric being used proved to be an obstacle. The fabric revolved around the bottle a number of times and thus the dye did not penetrate equally to all parts of the fabric. Therefore, by using a PVC pipe, the fabric did not rotate around the pipe as much and the dye was distributed fully. Instead of submerging the fabric into a dye vat, the pipe was held over a sink and dye was poured onto the fabric as the pipe was rotated. The colors of the dye used were yellow, orange, and turquoise and poured in that order from top to bottom on the fabric. The yellow and orange portions of the fabric were then used to form the bodice and the turquoise was cut out and used as the waistband. The bodice top was draped on a dress form and pleated by hand. The pleats are horizontal and were hand sewn on the dress form. After the bodice was hand sewn, the garment was taken off and top stitched by machine. The waistband was cut separately and follows the curve of the bust line. All three elements were sewn together and a zipper was sewn into the back seam of the garment.

Skirt dyeing and construction

The garment skirt was constructed from two different types of cotton. The overlay was constructed from organdy and the body of the skirt was constructed from cotton shirting. Organdy was chosen because it is a very sheer and crisp cotton fabric. One uncertainty

with the use of organdy was whether or not the fabric would maintain its crispness upon being dyed. Again for the skirt, Nouveau Shibori was used to dye the fabric. The PVC pipe was utilized for the skirt as well due to the amount of fabric that needed to be dyed. Yellow and orange dyes were used again for the skirt, but instead of using blue again to trim the bottom quarter of the skirt, a maroon dye was used. The skirt was constructed by draping muslin onto a dress form. There are two darts in the front and two darts in the back of the skirt so that it would be form-fitting. Since organdy was used, this was important because in all likelihood, the organdy was going to add a lot of volume. Once it was draped, it was cut out of the organdy fabric. It was then sewn up and attached to the waistband and the bodice. The vertical tiers had the edges finished by turning the rough edges under twice and top stitching. To construct the tiers, four gathering stitches went down each tier. Once the tiers were pinned down, they were sewn onto the dress. The last step involved constructing the lining and sewing it into the dress.

Successes

This garment was a modern silhouette, with very vibrant colors, that accentuates the female form. One desired goal with this garment was to create a garment that displayed certain aspects of Minoan women's clothing while still maintaining a modern look. The use of tiers in this garment was another success. Minoans often used tiers or flounces in their skirts. For the purposes of this garment, tiers were used in a different way. Vertical tiers were placed into the skirt, but the goal was still the same.

Limitations

The main limitation came with the use of organdy. There were a number of concerns with organdy when it came to dyeing the fabric. Organdy is very sheer and crisp. So the

first concern was whether or not the fabric would maintain its crispness. In that regard, the dyeing process was very successful. However the dye spread evenly throughout the fabric, ignoring the elastic resists. The even distribution of dye is not typical with Shibori, but the end result was very favorable. Another challenge with the organdy was limiting the total volume of the garment.

Capability for Mass Production

The bodice for this garment, which was done using shibori, would have to be screen printed in order to be mass produced. The pleating done on the bodice could be easily reproduced, but it may require a higher price tag due to the intensity of the labor necessary. The skirt, which also was done using shibori, could be screen printed. The underlay of the skirt was dyed a solid color so there would not be any difficulty producing it on a larger scale. The fabric choice used for the garment would not have to be altered. Organdy was used for the skirt and kona cotton was used for the bodice. Both of these fabrics could be used in mass production.

CHAPTER V

CONCLUSION

This collection of garments blends together two areas of interest: textile surface manipulation and a historic culture, the Minoan civilization. All six of the garments in this collection showcased various textile surface manipulations and represent certain elements of Minoan dress. A number of goals were outlined prior to undergoing work on this collection. Those goals were:

- 1) To take various surface manipulation techniques and apply them to contemporary, modern clothing, which have the ability to be commercially produced
- 2) To take one fabric, cotton, and create six head-to-toe looks that showcase the fabric's versatility and dye-ability
- 3) To present a cohesive collection

These goals directed a lot of the ideas that were applied to this collection. The various surface manipulation techniques used included batik, shibori, and tie-dye. All three of these techniques have historic roots and are not often utilized in modern clothing.

Therefore, the idea was to showcase six garments that utilize these techniques and could be commercially produced in today's market. Some of the dyeing techniques used for the garments would not be mass produced. However, the concept for each design could be adapted to reproduce each of the garments on a larger scale. The collection also uses the

same fabric, cotton, for all six garments. One of the goals for using cotton was to use cotton in a way that people could not be certain of the textile used. Cotton is not commonly used for the type of garments that were presented in this collection. The idea was for people viewing the collection to be surprised that the garments were all made out of cotton.

The third goal was to present a collection that was cohesive. All of the garments in this collection were inspired by the Minoan civilization. Minoan women's dress consisted of elements such as: tiers, form-fitting garments, corsets, 'v' skirts, separates, and bold colors. All six of the garments in this collection were inspired by those elements and utilized in different ways. Tiers were used vertically and horizontally. Corsets were made with a different point of view. Separate bodices and skirts were made to appear as one. The 'v' shape was used in skirts and in bodices. All of the garments showcase these elements, while also offering a unique approach.

This collection could serve as a model for other students to see that the work of the past can be modernized. An individual's point of view has the ability to convey elements of past cultures into contemporary and modern clothing. Unique and new ideas have the capability to translate historic dress into commercially produced apparel.

REFERENCES

- Barnes, C. S. (2006). *In Search of the Lost Feminine*. Golden, Colorado: Fulcrum Publishing.
- Barrett, T.H. (2001). Woodblock dyeing and printing technology in china, c. 700 a.d.: The innovations of Ms. Liu and other evidence. *Bulletin of the School of Oriental and African Studies*. 64, 240 - 247.
- Boucher, F. (1965). *20,000 Years of Fashion: The History of Costume and Personal Adornment*. New York, NY: Harry N. Abrams Inc.
- Broughton, K. (1995). *Textile Dyeing*. Gloucester, MA: Rockport Publishers.
- Castleden, R. (1990). *Minoans: Life in Bronze Age Crete*. New York, NY: Routledge.
- Cotterell, A. (1979). *The Minoan World*. New York: Charles Scribner's Sons.
- Hood, S. (1971). *The Minoans: The Story of Bronze Age Crete*. New York, NY: Praeger Publishers Inc.
- Hoye, J. (1942). *Staple Cotton Fabrics: Names, Descriptions, Finishes, and Uses of Unbleached, Converted, and Mill Finished Fabrics*. New York and: McGraw-Hill Book Company.
- Kadolph, S.J. (2007). *Textiles*. New Jersey: Pearson Education, Inc.
- Keller, I. (1966). *Batik: The Art and Craft*. Rutland, VT: Charles E. Tuttle Company.
- Noble, E. (1998). *Dyes and Paints: A Hands-on Guide to Coloring Fabric*. Bothell, WA: Martingale & Company.
- Polakoff, Claire (1971). The Art of Tie and Dye in Africa. *African Arts*. 4, 28-80.

VITA

Jenna Mason

Candidate for the Degree of

Master of Science

Thesis: USE OF SURFACE TEXTILE MANIPULATION TO CREATE A MINOAN
CULTURE INFLUENCED APPAREL COLLECTION

Major Field: Design, Housing, and Merchandising

Biographical:

Personal Data:

Education:

Completed the requirements for the Master of Science in Design, Housing, and Merchandising at Oklahoma State University, Stillwater, Oklahoma in December, 2008.

Completed the requirements for the Bachelor of Science in Textile and Apparel Management at University of Missouri – Columbia, Columbia, Missouri in May 2007.

Experience:

- Graduate Assistant: Teaching Instructor August 2007 – December 2008
- Graduate Research Assistant: Institute for Protective Apparel Research and Technology – August 2007 – May 2008
- Design Intern Juicy Couture Baby – May 2007 – August
- Production Assistant to Designers at University of Missouri Costume Shop – January 2005 – May 2007
- Community Advisor at University of Missouri – August 2005 – May 2007

Professional Memberships:

- International Textile and Apparel Association

Name: Jenna Mason

Date of Degree: December, 2008

Institution: Oklahoma State University

Location: Stillwater, Oklahoma

Title of Study: USE OF SURFACE TEXTILE MANIPULATION TO CREATE A
MINOAN CULTURE INFLUENCED APPAREL COLLECTION

Pages in Study: 60

Candidate for the Degree of Master of Science

Major Field: Type Design, Housing, and Merchandising, Apparel Design and Production

Scope and Method of Study:

This project will look at the application of various dyeing techniques for garments inspired by the Minoan culture. This design project will blend two different areas of interest; a) textile surface manipulation techniques and b) inspiration drawn from the Minoan time period. This project will display a cross cultural inspiration by applying dyeing techniques and textile manipulation to develop Minoan culture inspired garments. The textile surface manipulation techniques that will be featured in this project include a combination of methods that have been used in historic and modern cultures around the world. The objectives of the project are outlined below.

- 1) Design six garment inspired by upper class Minoan women, 2700 BC – 1400 BC
- 2) To take various surface manipulation techniques and apply them to contemporary, modern clothing, which have the ability to be commercially produced
- 3) To take one fabric, cotton, and create six head-to-toe looks that showcase the fabric's versatility and dye-ability
- 4) To exhibit a cohesive collection in the Design, Housing and Merchandising Gallery

Findings and Conclusions:

Dyeing techniques used have historic roots and are not often utilized in modern clothing. The idea was to showcase six garments that utilize these techniques and could be commercially produced in today's market. Some of the dyeing techniques used for the garments would not be mass produced. However, the concept for each design could be adapted to reproduce each of the garments on a larger scale.

The third goal was to present a collection that was cohesive. All of the garments in this collection were inspired by the Minoan civilization. Minoan women's dress consisted of elements such as: tiers, form-fitting garments, corsets, 'v' skirts, separates, and bold colors. All six of the garments in this collection were inspired by those elements and utilized in different ways.

ADVISER'S APPROVAL: Dr. Cheryl Farr
