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Homage to Handmade:
An Exploration of Pre-Industrial Needlework

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Homage to Handmade:
An Exploration of Pre-Industrial Needlework

by

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Thesis

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Abstract

Homage to Handmade:
An Exploration of Pre-Industrial Needlework

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The idea for *Homage to Handmade: An Exploration of Pre-Industrial Needlework* arrived during a classmate's thesis presentation about potential applications of 3-D printing for theatre costuming. A jacket button or textile, for example, could be 3-D modeled, providing a designer with precisely what they want, and a large quantity of buttons or several yards of fabric could be produced quickly and inexpensively. Her presentation was fascinating and I knew she would do well with her study, but my mind began to wander down a path away from my colleagues. "What does the 3-D printer mean for people who work with their hands?" I thought to myself. "If textiles, and buttons can be so quickly fabricated, will the skills of sculptors and weavers be valued in the future? Will those skills be taught or will they eventually become forgotten and obsolete?" I looked around the room and listened to the feedback of my peers and remembered how few people share my perspective on technology. As the discussion carried on I wrote down my new thesis idea in my notebook.

My thesis objective is to build a wig, sew a shirt, coat, waistcoat, and breeches in the style of an 18th century gentleman entirely by hand, id est, without the help of a sewing machine. The shirt will have handmade bobbin lace sewn to the neck opening bosom ruffle, and the waistcoat will be embellished with hand embroidery. These garments and hand processes serve two purposes. On the surface they will be pieces for my portfolio and a personal exercise in refining my needlework skills and acquiring additional ones. I enjoy sewing and take great pride in the process of making. But more profoundly, these items will be a physical representation of disenchantment with new technology. They represent a hope to maintain traditional craft while much of the world is in awe of technological progress. Through my needlework not only will I learn about creating historical garments and wigs, but I begin to answer the question, "why would anyone in this century choose to make something by hand?" This project is the beginning of a lifelong exploration.

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Chapter 1: Introduction

> "Hello Joseph,
> You have in my opinion, selected an interesting (and increasingly pertinent) but difficult thesis topic."
>
> – Linda Muir, Costume Designer
> Email correspondence, September 3rd, 2019

I confess that this thesis is a passion project. Those who know me well were not surprised when I explained the objective. This project was formed in the mind of someone who has enjoyed classical music since childhood and asked to take violin lessons. Someone who was once an uniquely awkward teenager with Italian Renaissance art in his bedroom. My father describes me as being "stuck in the past". Most likely, this quirk is largely responsible for my interest in sewing. Making clothing and objects from fabric is an age-old skillset with a rich history. Practicing this art connects me to the past and provides me with a deep sense of pride and accomplishment.

Although I firmly believe that yesteryear was certainly not perfect, my opinion is that the past is filled with beautiful music, art, literature, and fashion. From my own experience I believe that many people are not interested in exploring the past because generally, humans are obsessed with newness. We look forward to innovation. We are excited to hear new music, try new fashion trends, and fill our homes with cutting-edge electronic gadgets. Additionally, a modern perspective shows that the past is riddled with ignorance, hatred, superstitions, and short lifespans. With these negative associations with the past, it makes sense for us to view the future and innovation with great optimism.

Here I would like to explain that I am very happy to be alive in this moment in human history. While I admire many antique aesthetics, my personal appreciation for the

past is limited because I believe that things like social progress, medicine, and air conditioning have made many parts of the world a much better place. Although I am inclined to fantasize about playing a pianoforte by candlelight, or riding in a horse-drawn carriage, I do not wish to forfeit my freedoms, vaccinations, or my microwave. Because it is such a great time to be alive, it can be difficult to critique the conveniences of modern life or acknowledge the possible consequences of new technology. While innovation has transformed our lives for the better in many ways, could it also be true, that some devices are unnecessary, superfluous, or even detrimental?

When I was a child, I played with art supplies and stuffed animals. Today I see children in strollers interacting with cellphones and tablets. On a few occasions I have encountered restaurants that require me to order on a computer screen instead of interacting with a human being behind a counter. Is this the technology that's making our lives better? Is this progress, or is the excess? Should I always rely on my phone to do simple mathematics, navigation, or to remember birthdays and phone numbers? Is it possible that that convenience of technology encourages us to use less of our mental talents and dexterity? There have been many moments when I consider if technology is going, or already has gone, too far. I have often expressed this view with friends and family. Most of the time people deeply disagree with me, but every so often I find a kindred spirit who shares my perspective. In the book *Against the Machine,* author Nichols Fox beautifully states,

> Our preconditioning to favor novelty keeps us fascinated by the machines […] we have created dependency where none existed, forgetting that we survived as a

species for hundreds of thousands of years without the internal combustion engine or the cell phone. (Fox, xi-xii)

Motivation from Mechanization and Automation

Such are the thoughts that are constantly present in this mind that shaped my thesis. I must reiterate that I am deeply appreciative of most of the benefits of technology, I wish to clarify that that my thesis objective to explore handiwork was specifically inspired by the development and usage of mechanization and automation in the field of textile and garment production. Currently, Merriam Webster Dictionary defines mechanize as,

transitive verb
1: to make mechanical
especially: to make automatic or routine
2 a: to equip with machinery especially to replace human or animal labor
b: to equip with armed and armored motor vehicles
c: to provide with mechanical power
3: to produce by or as if by machine
("mechanize")

Dictionary.com's definition of automation is,

noun
1. the technique, method, or system of operating or controlling a process by highly automatic means, as by electronic devices, reducing human intervention to a minimum.
2. a mechanical device, operated electronically, that functions automatically, without continuous input from an operator.
3. act or process of automating.
4. the state of being automated.
("automation")

I find that a comparison of these definitions is important because while they both address the reduction of human labor, we see that automation takes that reduction a step further. I believe that machines have been very advantageous to textile and garment production, but I question the implementation of automation, when the human hand or mind of a maker is hardly required to create an item.

There is much we can learn by reviewing what textile mechanization accomplished in the past. It provides a great context as we watch technology continue to evolve with the help of electricity and computers. We are now witnessing the early stages of automation. As time passes, we watch human potential and productivity become more and more obsolete. Technology replaces the human hand and mind with higher speeds, fewer workers, and fewer company dollars spent on employee compensation. In a 2013 article titled "The Future of Employment: How Susceptible are Jobs to Computerization?" Oxford based economic historian Carl Benedikt Frey and professor Michael Osborne estimated through their research that 47% of jobs could be automated in the next two decades.

In 1589, William Lee of Calverton invented the Stocking Frame Machine or the very first knitting machine. I must point out the charming fact that Lee's motivation for creating this machine was to free up the busy hands of a hand knitter who was the object of his affection. Perhaps if a machine took on the tedious task of knitting stockings, she would have more free time for courtship. Sadly, the love was unrequited but nevertheless Lee continued to perfect his machine. Eventually, he presented it to Queen Elizabeth I, but she refused to financially support Lee's invention because she feared it would endanger the jobs of many low-income hand knitters.

The stocking frame was not fully embraced by the public until after Lee's death in 1614. It was improved by a series of innovators and by the year 1750, 14,000 stocking frames were producing knit goods in England. It served as the foundation upon which John Heathcoat could develop his bobbinet lacemaking machine in 1808, and in our present day we benefit from inexpensive textiles and garments created on modern-day advanced knitting machines. Lee's motivation and Queen Elizabeth the I's concerns from 400 years ago feel relevant to today as we evaluate the role of automation in the workplace, the hours

we must work to make a living, and as we debate the need for a universal basic income should 47% of jobs become automated in the 2030s.

According to legend, in the year 1799 an English weaver by the name of Ned Ludd did not embrace Lee's stocking frame. Instead he chose to smash two of them. Historians are uncertain as to why Ludd smashed the machines or if he even existed at all. In spite of this, his story inspired a movement, and the term Luddite comes from his name.

The modern usage of the word luddite has a negative connotation. It describes a person who is stuck in the past and refuses to embrace new technology or procedures. The historical usage of this term however refers to a band of English textile workers circa 1811 to 1814 who destroyed more than £100,000 worth of machinery between 1811 and 1812 (Sale 4) because thousands of weaving, spinning, and fiber finishing jobs in England were lost due to the arrival of new machines during the first Industrial Revolution:

> Nearly three hundred textile factories had arisen in Yorkshire in just the last twenty-odd years, eliminating handcrafting from many trades, and who knew how many were to come? -- but also of the displacement of the traditional cottage culture they had known for so long. What loomed before them was not merely the factory but a whole factory system as it was then taking shape on both sides of the Pennines, with its long hours and incessant work and harsh supervision that reduced self-respecting artisans, with long traditions of autonomy and status, to dependent wage slaves. (Sale 8)

> The Followers of Ned Ludd took up weapons against the machines that were destroying their lives, but the essence of Luddism is not violence. Far from it. It is a respect for and a confidence in those things that make us human, with a concomitant rejection of the mechanistic approach to being that devalues our humanity. It is a philosophy that respects tradition, intuition, spirituality, the senses, human relationships, the work of the hand, and the disorderly and unpredictable nature of reality, as opposed to a mechanistic or reductionist construct of the world. It questions the domination of science and the elevation of efficiency to a superior value. It rejects materiality. (Fox xii)

A very familiar invention that arrived during the First Industrial Revolution is the sewing machine. The history of this machine's development is dense. Our modern-day sewing machines which can be found in costume shops, clothing factories, and in our homes are descendants of various machines developed by numerous innovators such as Elias Howe, Walter Hunt, and Isaac Merritt Singer. Thomas Saint of St. Sepulchre Greenhill Rents Parish in England is credited with being the inventor of the first sewing machine between 1789 and 1790. In the following decades a few prototypes emerged all around the world. In the 1830s, the French tailor Barthelemy Thimmonier received a patent for his chain stitching sewing machine which led to,

> a factory with 80 machines turning out uniforms for King Louis Philippe's army. His success caused considerable unrest among the Parisian tailors, and they plotted against him. They foresaw mass production that would cause widespread unemployment if he were allowed to continue. (Ewers et al. 10)

By the 1860s the United States of America had 500,000 sewing machines. During this time a machine could sew, "3,000 stitches a minute" when the quickest hand speed was said to be "35 stitches per minute" (Ewers et al. 93). Additional comparisons include, "One machine equipped with a hemmer, could outsew fifty hand sewers" and, "One girl at a sewing machine could sew more boys' caps, than ten tailors could sew by hand" (93). The New York tailoring company Brooks Brothers noted that "It required 6 days to complete one quality suit by hand. By machine, no more than three days" (93). The well-known sewing machine manufacturing company Singer began selling sewing machines for the home in 1858, and began producing electronic se wing machines in 1889.

"By 1903, they were selling 1,500,000 machines a year around the world" (Ewers et al. 171). Sewing machines significantly reduced the cost of clothing manufacturing with high speeds and fewer workers. While numerous people who hand stitched professionally

lost their jobs, and many sewing machine operators earned low wages in factories with terrible working conditions, the burden of sewing chores was lifted off the shoulders of housewives:

> Women's advocates and ladies magazines welcomed the relief from the hard labor and rejoiced in the hours freed for leisure and worthwhile pursuits such as 'refinement and exercise' ("History of the Sewing Machine")

Because of these textile industry innovations, many people are able to afford several articles of clothing and wear things that were once reserved for nobility. When garment production was slower and more expensive, many actors had to supply their own costumes. Now a costume designer is able to dream up unique garments for stitchers such as myself to make. In spite of my thesis objectives, I am grateful to have access to a sewing machine. But does a sewing machine require access to a person to operate?

"Sewing simple items of clothing is one of those repetitive, labor-intensive tasks that seems like it would have been automated ages ago" (Bain). In 2015, the brilliant minds employed by SoftWear Automation in Atlanta, Georgia introduced LOWRY, a SewBot that can make clothing, shoes, and home goods without human hands guiding fabric. Because many soft fabrics are inclined to shift easily when being sewn, SoftWear Automation's accomplishment is astounding:

> SoftWear Automation's big selling point is that one of its robotic sewing lines can replace a conventional line of 10 workers and produce about 1,142 t-shirts in an eight-hour period, compared to just 669 for the human sewing line. Another way to look at it is that the robot, working under the guidance of a single human handler, can make as many shirts per hour as about 17 humans. (Bain)

One of the benefits of LOWRY is more domestically produced clothing items instead of relying on fashion produced unethically overseas. In 2016,

> The International Labour Organization (ILO) estimated that around 64% of textile, clothing, and footwear workers in Indonesia could eventually be replaced by robots.

> In Vietnam the number was 86%, and in Cambodia, 88%. The report noted that workers could get better wages if governments and employers start preparing them for new high-tech jobs. If they don't, the consequences could be dire. (Bain)

Currently, a LOWRY cannot make an intricate garment such as a prom dress, or an 18th century coat, but those items could be in the realms of possibility as LOWRY is, "eliminating the need for trained seamstresses." ("SoftWear Automation")

Another recent achievement is the MTailor app for smart phones. According to their website, the app uses your,

> phone's camera to measure you for the best fitting clothes you'll own. In under 30 seconds our machine learning algorithm measures you 20% better than a tailor. With your measurements we can make custom clothes, just for you. ("Mtailor Frequently Asked Questions")

Initially in 2014, they offered clients customizable men's shirts starting at $69.00. Now they also provide men's jeans, chinos, polos, and suits at prices lower than traditional bespoke tailoring. Women's jeans have recently become available and they're striving to improve the app to offer more clothing items for women. CEO and cofounder Miles Penn claimed in a Fox Business Interview that the garments are made ethically in Bangladesh and arrive to customers in three weeks.

After contemplating the effects of industrial progress, I have become concerned about the future human practice of sewing. Historically, when someone's job became obsolete, they left the countryside to find a different job in the city. How many times can humans repeat this pattern? How many new jobs will automation produce, and how diverse will these job tasks be? Will job opportunities be limited to computer skills, machine operating, and machine repair? Will our fast-fashion culture of consuming inexpensive clothing and tossing it after two wears become even faster? I also fear that because sewing could be dominated by automation, people will no longer view sewing as an important skill

to learn for either reasons of practicality or for a pastime. If clothing and textile production became even less expensive, could a consumer justify paying a human stitcher what they deserve? In 2017, the British Heart Foundation discovered that

> Nearly six in ten (59%) of people polled revealed they are unable to sew confidently or at all, with over double the amount of men (33%) unable to sew compared to women (15%). A third (33%) of people reveal that they were never even taught how to sew. The absence of sewing skills in today's society mean half of Brits (50%) have to ask their mothers to help fix their clothes and around a fifth (16%) ask their grandparents for help. ("BHF Exposes")

Luckily, they also discovered that 60% of the British people surveyed were interested in learning how to sew.

These concerns are at the core of my project Homage to Handmade. While I do not wish to undermine the important achievements of new technology, my research explores the beauty, history, and necessity of handwork. Through this thesis project and in the years to come, I wish to inspire people to keep traditional skills alive because there is so much creative potential within a pair of human hands.

Project Parameters

What is Handmade?

I acknowledge that machine sewn garments showcase beautiful human craftsmanship, but I had to take it a step further to truly emphasize the core principle of this project as I pay respect to the tradition of making things by hand. A few years ago while visiting the local Renaissance Faire, I stepped into a small shop selling period costumes to admire someone else's work. A friendly woman approached me and explained that all of their costumes were handmade. I smiled and looked closely at the stitching on a man's shirt and thought to myself "What? This is machine stitched." But her comment

made me ponder about the word handmade. I opened the Third Edition of the Oxford Dictionary of English to read the definition of handmade:

> handmade ▶ **adjective** made by hand, not by machine, and typically therefore a superior quality: *his expensive **handmade** leather shoes.* ("handmade")

In a 2015 article called "The Handmade Effect: What's Love Got To Do With It" from *The Journal of Marketing,* researchers Christoph Fuchs (Technische Universität München), Martin Schreier (WU Vienna University of Economics and Business), and Stijn M.J. van Osselaer (Cornell University) explain,

> As has been the case since the times of the ancient Assyrian loom (Barber 2013), and probably even before that, purely handmade production is rare. Almost no production process currently involves no machines (e.g., a maker of handmade knives uses a machine to sharpen the knives). However, many machinal production processes involve some form of human contact. Thus, it is often difficult to objectively categorize a product as completely handmade or completely machine-made (Barber 2013), which provides marketing managers with considerable freedom regarding whether to present their products as handmade (vs. machine-made or to not mention the product's production mode) (Fuchs et al.)

Vanessa Bertozzi is the program manager for wholesale with Etsy. According to Bertozzi, Etsy is, "a marketplace for handmade. For handmade goods and where you buy directly from the people who make those goods, as well as vintage…" (Glassenberg and Bertozzi). As their company grew, they found it necessary to clarify who was able to sell on their website which led to them redefining the handmade. Bertozzi explained in an interview that "some people in the (crafting) community feel like handmade is really just about an individual artist making something with their own two hands. But then when you look at that, what does making with your hands mean? What if someone uses a laser cutter?..." She further explains that on Etsy "You're not allowed to sell things on Etsy that

don’t originate with you” I read about Etsy's policy on handmade. As of August 2020, their website states “Handmade on Etsy is a spectrum of makers and designers” (“Handmade Policy”):

> A maker is a seller who is physically making the items listed for sale in their Etsy shop. A maker might design their items in addition to making them, or they might follow a pattern or template that they did not design. Regardless, makers must be creating their items with their own hands (or tools). (“Handmade Policy”)

Etsy’s definition of handmade includes goods made with all of the new technologies available to artists. This very perspective applies to the costumes for sale I saw at the Renaissance Festival. When I use the term handmade in this thesis project, I am referring to an older definition of handmade that corresponds with the Oxford Dictionary definition. I mean to say that I did not use a sewing machine, embroidery machine, or lacemaking machine. Instead I embroidered and sewed my garments and wig base by using hand needles and thread, I made the bobbin lace by manually manipulating bobbins, and my wig wefts were hand woven.

Historical Accuracy

While my garments, lace, and wig came together by hand, I could not commit to 100% historical accuracy. This was necessary for budget, time, and materials currently available in the 21st century. I hope to try my hand at historical tools one day, but at this time I did not want to purchase reproductions. The largest inaccuracy was my usage of electricity. I illuminated my workspace with light bulbs, I used an electronic iron to press my fabrics, and electronically heated tools to style the wig. Other violations include using heat erase Frixion pens and color pencils to mark sewing lines, using a tape measure (which was introduced into tailoring in 1799) instead of notching strips of paper for measurements.

I also substituted silk fabrics and threads with cotton for personal ethical reasons tied to my vegetarianism. Additionally, some fabrics are no longer manufactured so I found appropriate substitutes which I will address in my construction chapter.

In some cases, I had to resort to my 21st century judgement because some construction techniques remained unclear after my research, and I am not a journeyman tailor who worked 280 years ago. Furthermore, I was encouraged by Professor Glavan and classmates to incorporate a few tailoring techniques that came after the 18th century which I will also indicate in my construction chapter. For this project I mean to utilize a fair amount of historical practices, but the primary focus is the fact that I did not use electronic machines to assemble the clothing, lace, or wig.

Significance of the Time Period and Materials

I chose garments from the 18th century because this elegant silhouette occurs before the First Industrial Revolution, when new machines drastically changed the production of textiles and clothing. Additionally, the style is significant for fashion history because the waistcoat, breeches, and coat from this era are the early versions of our modern day 3-piece suit. I also believe that modern consumers could find inspiration in the way people treated clothing and textiles in this time.

Because fabrics were more expensive in the 18th century and hand sewing is time consuming, people owned fewer clothes. Holes were mended, linings were replaced, clothes were re-cut or re-decorated to keep up with fashion trends, handed down, and even re-cut to become children's clothes. If a linen shirt was beyond repair, it was sold to a rag man and could live a second life as a sheet of paper.

No synthetic fabrics, hair, or threads were purchased for my pieces. Not only was this done to reflect the correct materials available in the 18th century, but the use of natural

yak hair, wool, linen, and cotton are intended to connect the pieces to the earth. Additionally, I did not want my scraps to contribute to environmental pollution caused by the creation and destruction of polyester and acrylic fabrics.

Because of my timeline, I immediately knew that I could not include hand weaving in this project. Luckily, I was able to find beautiful handwoven textiles. For the shirt, I acquired an organic handwoven Indian cotton from The Cloth Shop on Portobello Road in London. Handwoven wools for the waistcoat, coat, and breeches are from Harris Tweeds, a very respectable company located in the Scottish Hebrides. The color pallet and embroidery design are intended to be earthy. All threads for the lace and sewing are either cotton or linen instead of the more commonly used polyester threads of present day.

Project Presentation

To present my work, I asked UT Dance Major Navaji Nava to be my model and to perform a filmed 18th century inspired dance. The music I selected was a modern acapella recording of "Ombra Mai Fu" arranged and performed by Sam Robson. The piece was originally written in 1738 by George Frideric Handel for the opera *Serse*. This hauntingly beautiful aria is about appreciating shade provided by a tree. I chose film as a medium to showcase my work because hand stitching would be more visible to the audience during a camera close up than it would be if they were to view a live performance from a distance. The film was to be shown in a small gallery, amongst my garments, process photos, and sewing samples, in the Lighting Lab of the F.L. Winship Drama Building on the University of Texas at Austin campus.

However, during a very critical time in my thesis work the world experienced the beginning of the coronavirus pandemic in the spring of 2020. In March, schools around the world had to close to prevent their students and faculty from contracting COVID-19. This

meant that halfway through my garment making I lost momentum transitioning from working in the costume shop at The University of Texas to working at home. People were instructed to practice social distancing to prevent spreading the virus.

This meant that I was no longer able to have fittings with my model, have in person meetings with my advisor, film a video, or publicly showcase my work. With this in mind, I eventually decided that it would be more advantageous to alter the pieces to fit myself. I also built a simple website called www.homagetohandmade.com to share my work. In time the website will grow to show future historical handmade pieces, and perhaps a filmed dance performance will materialize on the website one day.

Chapter 2: The Victoria and Albert Museum

Studying at the Blythe House

A friend I made while working at Minnesota's Great River Shakespeare Festival in the summer of 2018 told me all about his research project on corsets from the 18th and 19th centuries. He explained that the university he attended awarded him with a travel grant to visit The Victoria and Albert Museum in London where they arrange study room appointments for visitors to closely view artifacts from their collections. Historical corsets were brought out of storage for him to study and photograph. I was captivated by his description of this opportunity and decided that it was imperative that I follow in his footsteps and request to view men's 18th century garments. I applied for a travel grant through The University of Texas Live Design program and they provided me with $500 to travel across the pond.

While the Clothworkers' Centre asks that appointment requests be made six weeks in advance, I contacted them in September of 2018 with the intention to visit in January of 2019 during the university's winter break. I browsed the online catalogue of the V&A Museum. Their rules limit the number of items that can be viewed per appointment to six. I selected: an embroidered waistcoat made in the 1760s, a bridegroom's jacket from the 1750s, one pair of breeches from the 1760s, and a second pair from the 1790's, a shirt circa 1700-1720, and an embroidered dress coat made in the 1790s. My appointment was from 10:30am-12:30pm on the 11th of January, 2019.

The museum archives are held at the Blythe House. This striking turn of the 20th century building contains over five miles of occupied shelving and is home to the Clothworkers' Centre for the Study and Conservation of Textiles and Fashions.

Illustration 1: A portion of the exterior of the Blythe House in January of 2019.

My two-hour study room appointment is likely to remain one the most exciting and rewarding experiences in my life. Before I even arrived in London, I felt immense gratitude because the Clothworkers' Centre provides such a wonderful service at no charge for enthusiasts. Upon entering the large study room, my gratitude increased and I was overcome with awe and euphoria. I stood before four tables displaying the garments I requested. They even provided a seventh bonus item which was a mauve silk taffeta jacket from 1790-1795. Viewing artifacts that were made between 225 and 320 years ago without the barrier of glass allowed me to connect to the people who made them, the people who wore them, to history, and to period sewing techniques more profoundly than I could have by just examining a photograph. My eyes jumped from hand stitches to hand embroidery, from mending to patching, from gathers to buttons, and from discolorations to holes created

by decay. There were countless features to admire. After taking it all in I had to compose myself. I dried my misty eyes and remembered that my goal was to photograph and take note of 18th century construction techniques.

Illustration 2: My first impression of the 18th Century men's garments I selected for my Clothworkers' Center study room appointment.

Because of their age I was not permitted to handle the clothing. There was, however, a very helpful supervising curator who was able to reposition each item. At my request she would turn the garments over, lift pocket flaps, or reveal linings and interiors. She confessed that she studied history and not fashion, but she was still able to answer many of my questions and point out unique features of the garments.

Closest to the entrance was my favorite object. It was the bridegroom's coat constructed out of handwoven fustian (a heavy twill fabric with a cotton weft and linen warp) and lined with unbleached linen. I was drawn to its elegant silhouette, modest color, wear and tear, and lack of embellishments. I am now aware of how this jacket influenced my own project design. I appreciated the arrangement of its pleats, the hand stitching on the button holes and the fine edge stitching. It rested next to a blue silk court dress coat lavishly adorned with colorful floral hand embroidery. With the coats laying side by side I could see how the shape of men's coats evolved over the decades in the 18th century, as the 1790s blue coat has less volume in its pleats than the brown coat from the 1740s.

Illustration 3: On the left is a heavily hand embroidered royal blue silk coat from 1790-1800; Museum number 295-1898. On the right side is a tan fustian coat made in the 1750s. Its museum# is T.962-1919.

Illustration 4: Machine Engraved buttons, hand stitched buttonholes and stitching known as *le point à rabattre sous la main* (also known as prick, or underhand hemming stitches) on the tan fustian coat from the 1750s. Museum# T.962-1919.

Illustration 5: Hand embroidery on the center back seam of the royal blue silk dress coat from the 1790s. Museum #295-1898

What I found most valuable was viewing the stitching and seaming techniques. My study room appointment occurred early in my research before I had done much reading about period sewing methods. Seeing and photographing these garments up close helped me form questions and revealed mysterious techniques for me to research.

I enjoyed comparing the extremely fine and faintly visible stitches that held together a linen shirt (which was likely to have been made for, yet never worn by King William III) to the more amateur stitching on a crewel embroidered waistcoat (see illustration 9). Seeing such a huge contrast in skill level was encouraging for my own project, and reminded me that garment construction was performed not only by

professional tailors, milliners, and mantua makers, but also by less experienced people who stitched at home for their families.

On the King William III shirt, I noticed how dimensional and organized the gathering was compared to modern day sewing machine gathers (see illustration 6&7). I made note of this and later learned that this technique is similar to what we refer to today as cartridge pleating where each peak and valley of gathers are carefully whip stitched in place where it joins another piece of fabric, such a collar or cuff. Machine stitched gathers appear flatter by comparison because they're quickly sewn, and crushed under the sewing machine's presser foot. The King's shirt also had a beautiful sample of fagoting, which is "an openwork decoration of fabric in which thread is drawn in crisscross stitches across an open seam ("faggoting"), located at the bottom of the neck opening (near the sternum) which I later learned was a decorative way to reinforce this delicate area thus preventing a split down the center of the shirt (see illustration 8) .

Illustration 6: Exceptionally fine stitching along the neck gusset, collar, and shoulder strip of King William III's linen shirt made between 1700-1720. Museum # T.356-1980.

Illustration 7: Machine gathers on the ruffles of a half scale petticoat I made for a draping class assignment.

Illustration 8: Faggoting on the neck opening of King William III's linen shirt. Museum #T.356-1980.

Illustration 9: The pocket interior of a 1760s waistcoat. Museum #CIRC.570-1926. The buttonhole stitches seen on the left side of the pocket flap and the stitching that attaches the red binding are large and inconsistent.

While visiting the Blythe House, I recalled hand sewing clothing for my teddy bear when I was a child before I owned my first sewing machine. I remember being frustrated because I could see my hand stitching peeking out between seams. Generally this does not occur with sewing machine stitches when the thread tensions are correct as it produces small, consistent, and tight stitches. I was reminded of my teddy bear clothes when I noticed the 18th century garments also had peeking hand backstitches. Having learned more

about sewing over the years and developing an appreciation for historical clothing, I now find this quality quite charming because it shows off the skill of human hands.

Illustration 10: Visible hand stitching on the seam between the sleeve cap and armscye of a 1790s silk taffeta jacket. Museum #T.727-1913

I believe that the most complicated garments to comprehend are the breeches. Luckily, I had access to two pairs that helped demystify the components. At the time of my appointment I had not yet selected a decade from the 18th century for my thesis sewing

project. One pair of breeches I studied exhibited patterning from the earlier part of the century, while the other pair showed patterning from the later decades of the 18th century. Before my visit to London I thought all breeches in the 18th century had fall fronts (see illustration 14) but I became aware that earlier breeches were opened with a button placket down the center, and had two pockets on either side (see illustrations 11 & 12). I would guess that these two pockets appear to have evolved into the fall front, which achieved a smoother plane for the male figure as the length of waistcoat front panels became shorter. I was also happy to make note of all of the facings and fastenings on the pair of fall front corduroy breeches from the 1790s.

Illustration 11: An open front pocket on silk breeches made between 1760 and 1770. Museum #435-1967. Perhaps the button is missing

Illustration 12: The center front fly opening on the fully lined silk breeches made between 1760 and 1770. Museum #435-1967. There are buttonholes on the waistband and also on the extension below.

Illustration 13: The back of the silk breeches shows pleats as the back panels meet the waistband, and pattern matching along the back seam. Perhaps the extension tab on the right side once had buttons. Museum #435-1967.

Illustration 14: The upper interior of dark brown corduroy breeches made in the 1790s. Museum # T727-1913. There is a flap concealing the center front closures. Instead of fully lining the breeches there are facings made from ecru fabric. There's also a triangular insert on the center back to cover the gap between the eyelets to be laced shut.

I still feel very inspired by my visit to the Blythe House, and I continue to learn more about these garments each time I review the photos. After this experience I feel eager to schedule future study room appointments and encourage other historical enthusiasts to do the same. At the end of my appointment, I took a few minutes for personal reflection and I journal about the overall experience.

Fashioned from Nature Exhibit

January of 2019 was the perfect time to visit London for my research. At this time, The Victoria and Albert Museum presented an exhibit called *Fashioned from Nature* which I felt corresponded with some of the underlying messages of my thesis project. It examines the relationship between the fashion industry and the environment. The exhibit began in the 1600s and ended in the present day.

At the beginning of the exhibit on the first floor, there were installations of exemplary gowns, jackets, hats, lace ruffs, and corsets selected to show the visitors what fibers were used to make clothing. They mention wool, cotton, flax, silk, whalebone, and furs and provide information about how these resources were obtained.

Illustration 15: From left to right; a wedding dress from 1807 made of Indian muslin, a washable fustian (cotton and linen) lady's riding coat from 1765-75, a gentleman's waistcoat made from silk, and machine spun cotton in the 1780s, A block-printed cotton gown from 1780-1785 which was altered into an updated silhouette. A silk velvet and cotton velvet waistcoat from the 1750s

As time progresses in the exhibit guests can see how European exploration, trade, colonization and scientific progress introduced new fiber options for textiles such as spun glass as a substitute for silk, and weaving silk with fibers from Indonesian pineapple leaves. As they learned more about the natural world and documented local and foreign flora and fauna, new decorative motifs began to appear on clothing.

Illustration 16: On the left is a gentleman's waistcoat from the 1780s with embroidered Macaques. The Mantua on the right from 1735-1740 is made from a silk brocade with an island tree pattern.

Illustration 17: A cotton bodice and skirt from 1868-9 adorned with vibrant jewel beetle wing cases.

After ascending the stairs in the exhibit to reach the 2nd and final floor, visitors could see garments from the 20th century showcasing the usage of new synthetic fibers and the expansion of trade. They later address the plastic pollution caused by these man-made fibers and confront the environmental impact of fast fashion, which is our current practice of underpaying people in other countries to cheaply produce low quality clothing which is ready discarded (often into landfills) after a fashion trend has passed.

Thankfully the exhibit ends on a hopeful note showing garments which were made from recycled resources and new eco-friendly textiles. They also displayed clothing which has been mended in artistic ways, thus extending their usage and adding new design elements.

Illustration 18: A 2017 dress for H&M made from plastic bottles recovered from the ocean

Illustration 19: Visible mending on a jacket by John Alexander Skelton in 1989. The plaque reads, “John Alexander Skelton creates thoughtful garments that advocate handcraft and responsible manufacture. Original darning and visible repairs underline the textiles’ age and value in contrast to today’s proliferation of short lived ‘fast-fashion’”

My interpretation of the exhibit’s message was that initially humans carefully obtained resources from the planet and developed an appreciation for its vast beauty. As time progressed our planet was exploited with our insatiable greed and growing population, and now it is time to make amends. This directly relates to my thesis through my use of color, embroidery motif designs and fabric choice. The design choices are meant to glorify nature, and my usage of fabrics made of natural fibers is intended to project my life-long concern against contributing to the continued pollution of our planet with petroleum-based products. I also considered the future usage of these pieces by making them alterable. In

my construction chapter I will address how my sewing techniques pay homage to the mindful and frugal habits of the 18th century stitchers.

Chapter 3: Wig Making

I built the wig for Homage to Handmade during an independent study course in the fall of 2018. I had taken the first of two wig making courses offered at The University of Texas in the Spring of 2018 under the instruction of Wig and Makeup artist Allison Lowery. During her class, students learned how to ventilate hair, (id est, hook strands of hair into wig lace mimicking hair growing from skin) shape wig lace to fit the face for facial hair, and how add a realistic hairline to a store-bought wig in a process called quick fronting. She also taught students how to alter a commercial wig for a better fit, wig styling, and care. In her second wig making course, Lowery had students build their own wig foundation (also known as a caul) and cover it entirely by ventilating. Unfortunately, before I could take Wig Making II, she accepted another job opportunity.

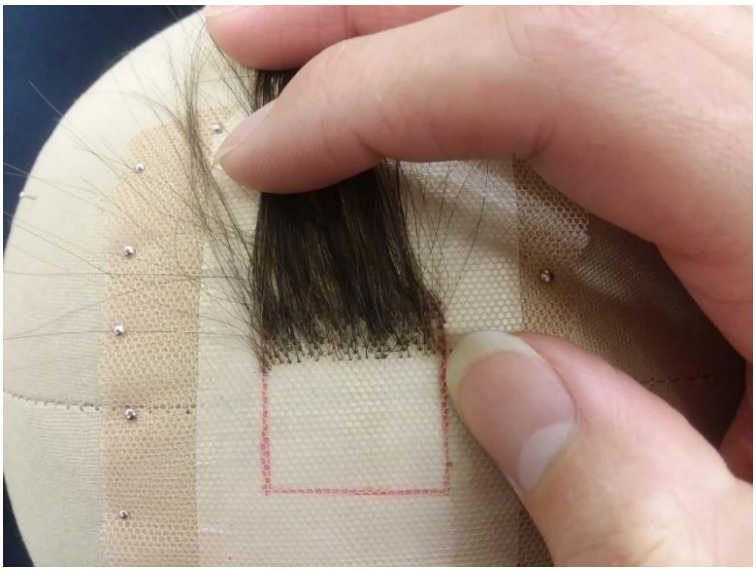

Illustration 20: My first ventilating sample. Hair is tied to a piece of wig lace using a fine ventilating hook. This modern technique can be used to create facial hair, or a realistic effect along hairlines or hair parts. It was not used in the 18th century.

After Allison Lowery relocated we stayed in touch. When I informed her that I was going to build a wig using 18th century technology, she generously offered to help me through online correspondence. In addition to her wisdom, I resorted to her book *Wig Making and Styling a complete guide for theatre and film, The Wigmaker in eighteenth-Century Williamsburg* by Thomas K Bullock et al., *Boardwork; Or, The Art of Wigmaking, &c: A Technical Handbook Designed for the Use of Hairdressers, and Especially of Young Men in the Trade* by Alfred M. Sutton. I also reached out to a friend of my advisor Jim Glavan called Michael Meyer who is the Director of The Art of Hair and Wig Design Program at The Academy of Make-Up Arts in Nashville, TN, for additional advice.

Although they have existed since antiquity, wigs gained popularity for gentlemen's daily dress in the French court after King Louis XIV's natural hair began to thin. The trend arrived in England during the reign of King Charles II when his dark hair was turning grey. In the early 1700s, they were costly accessories worn by the elite, but as the wig making business flourished and hair trends became less opulent for men, wigs became more affordable for the middle and lower classes. High-end wigs were made of human hair. Yak and horse hair wigs were available at lower prices. Styles varied throughout the decades of the 18th century, and different styles could indicate the wearer's occupation. Some wigs were dressed in scented and tinted powders. Few wigs from this period survive today because they were often stolen directly off the wearer's head or handed down to a member of the lower-class once the wig style was out of fashion or wearing out. Some even met their end by becoming a floor mop or a cleaning rag. By the 1790s more people began to wear their natural hair again and France became the trendsetter for shorter hair styles for men.

Acquiring natural materials for my wig project was quite the challenge because many wig making suppliers stock nylon wig lace, nylon wig tape (which is placed along

the hairline) and synthetic hair. Fortunately, I was able to locally purchase cotton thread (in lieu of silk) from Joann Fabrics. I found grey yak hair, linen weaving thread, and 100% cotton wig foundation lace (to create the wig base) from Banbury Postiche in London. The cotton galloon, or wig tape, was supplied by Fischbach und Miller in Germany. I planned to begin my construction early in the fall semester however there was a two-month delay on the shipping of my wig lace due to customs between Switzerland and England.

Illustration 21: Grey yak hair and a spool of heavy linen weaving thread from Banbury Postiche.

Because my coat, breeches, and waistcoat patterns are from the 1740s, I decided to create a wig with a braided queue (or ponytail) which was in style during that decade. I began by taking several measurements of my model's head. I also adopted the

contemporary method of making a “bubble” which is made by wrapping the head in cellophane, then covering it in several layers of clear tape and drawing the actual and desired hairlines with a permanent marker as seen in the illustration below.

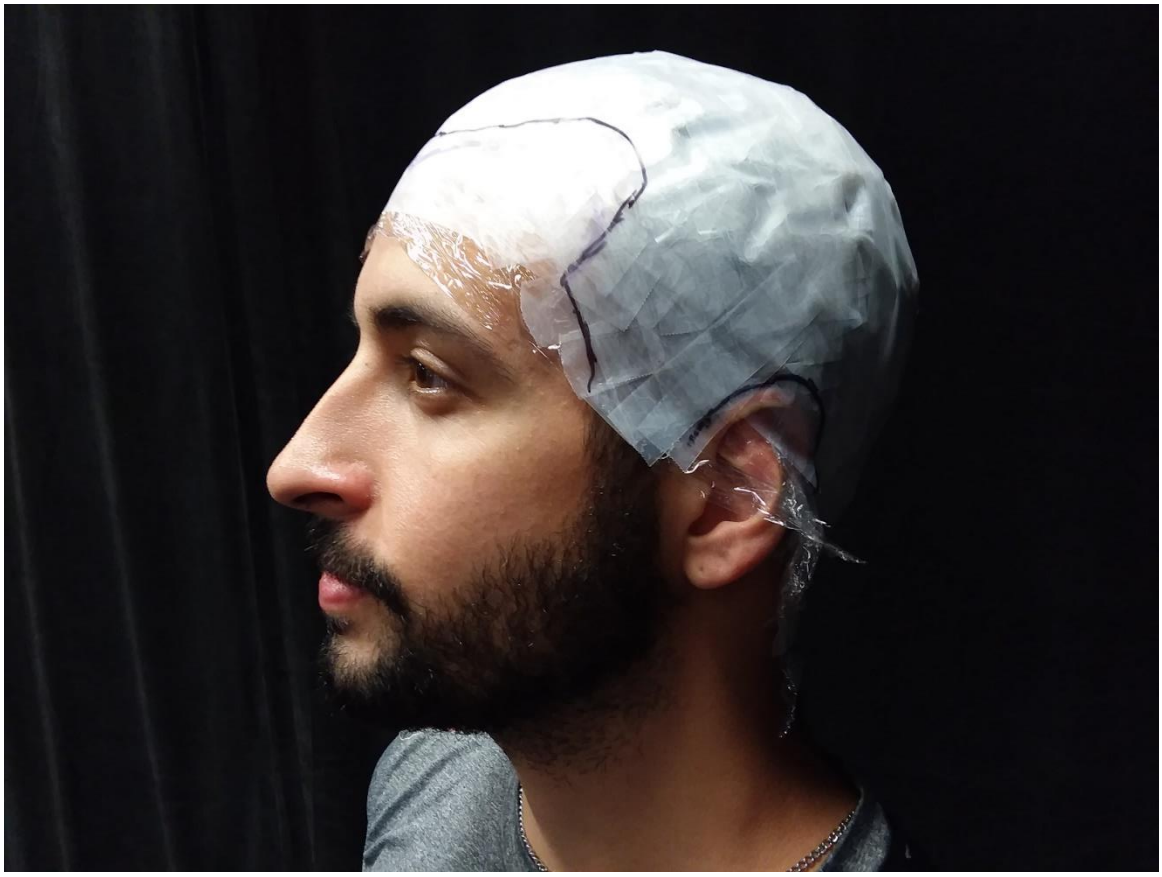

Illustration 22: The cellophane wrap and tape head bubble on Navaji Nava’s head.

While I waited for the cotton foundation lace to arrive, I began to make wefts on a weaving frame owned by the University of Texas. Because it was slightly broken, in time it proved to be a hassle that slowed down my progress. Eventually, I purchased my own weaving frame from Banbury Postiche. Modern day wigs can be fully ventilated, covered in machine made wefts, or be a combination of the two. In the 1700s wigs were made

entirely of handmade wefts, with some people brushing their natural hairline over the hairline edge of the wig for a more natural appearance.

To make a weft, the wig maker arranges three (occasionally two) taught lengths of heavy thread on the weaving frame (see illustration 25 below). The root ends of hair strands are woven into the threads in various ways depending on the desired effect. Instead of making one long weft for the entire wig and cutting it to various lengths as needed, rows of hair are made to specific lengths depending on where it will be sewn down to the wig caul.

To help contain the woven hairs, each row begins with a starting knot and ends with a finishing knot (see illustration 23). Although I saw illustrated examples of this from François Alexandre Garsault's *The Art of the Wigmaker* published in 1767, I learned the technique from a YouTube tutorial by wigmaker and makeup artist Elouise Abbott. For the hair between the starting and finishing knots, I followed instructions for "thrice-in wefts". Essentially this means the hair is woven across the three threads three times. For additional security, I tied knots in the linen threads at the beginning and end of each weft.

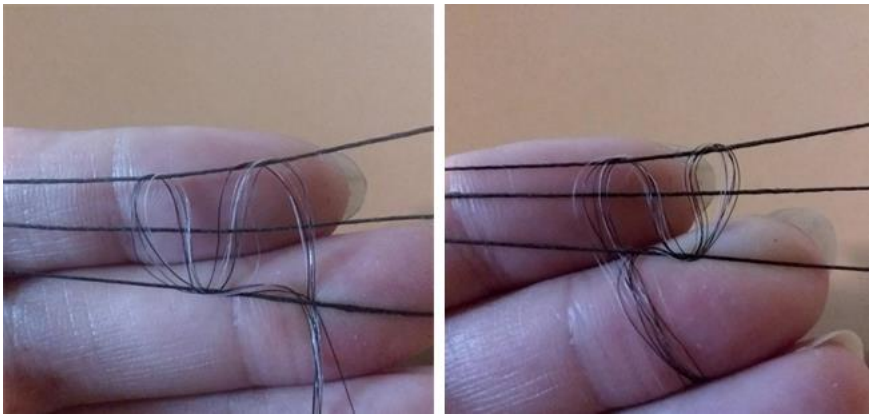

Illustration 23: On the left is the starting knot. The (long) tip end of the hair passes from behind the lowest thread and then wraps over it emerging from the back of the bottom thread, so that it rests to the left side of the root (short) end of the strand of hair. The mirror image of this pattern occurs for the finishing knot seen in the image on the right, but this time, it is the root end that wraps around the bottom thread.

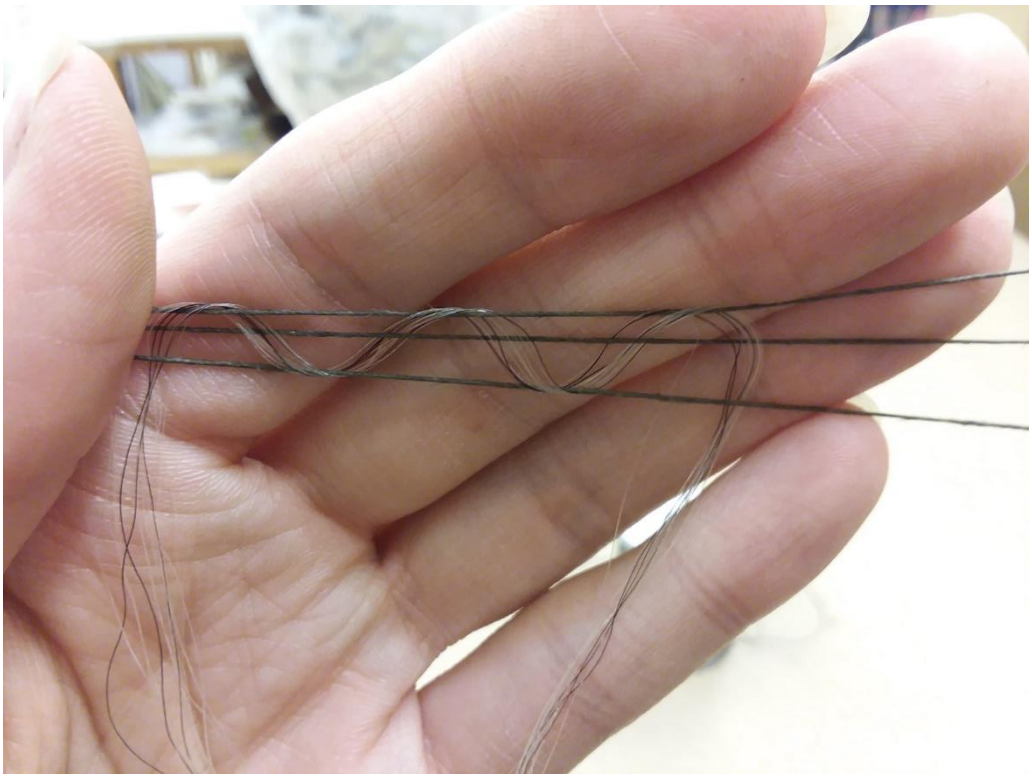

Illustration 24: A close up of the weaving pattern called thrice in weaving, before it was tightened. This is the method illustrated in the book *Wig Making and Styling a Complete Guide for Theatre and Film.*

Illustration 25: The beginning of my second weft created on the frame owned by UT. Resting on the table is my completed first weft, and behind the frame is a wooden head block used as a form to create the caul, or wig foundation.

When the cotton lace finally arrived in November, I was able to start on my wig caul using a combination of the instructions found in the pamphlet called *The Wigmaker in Eighteenth-Century Williamsburg* and in Lowry's book. I lightly penciled in my hair line on a wooden head block provided by the University of Texas. I followed the line with the tape adding ease at curves, and folding at sharp corners. I used wig points, which are like nails without heads, to secure the galloon in place. These straight wig points are meant to be curved by the wigmaker using a special tool so that they rest out of the wigmaker's way while sewing the wig lace to the galloon. I did not have the tool to properly curve the wig points, so I had to make due with less sophisticated hand bent points.

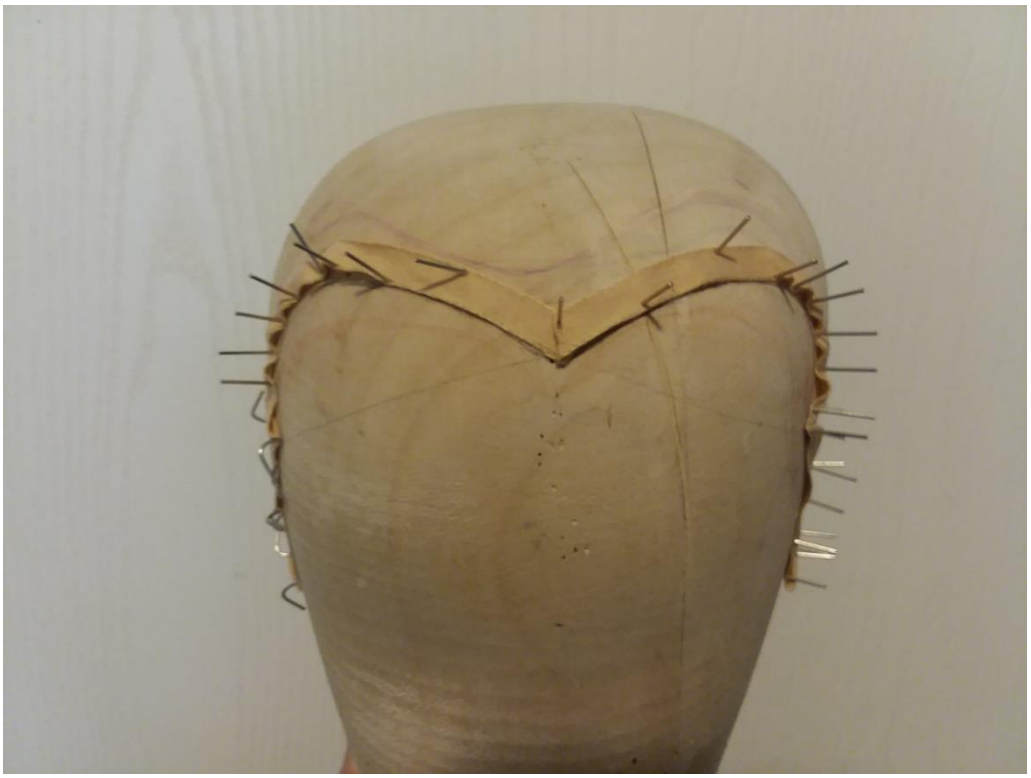

Illustration 26: Cotton galloon forming the outer edges of the wig. It is secured with wig points.

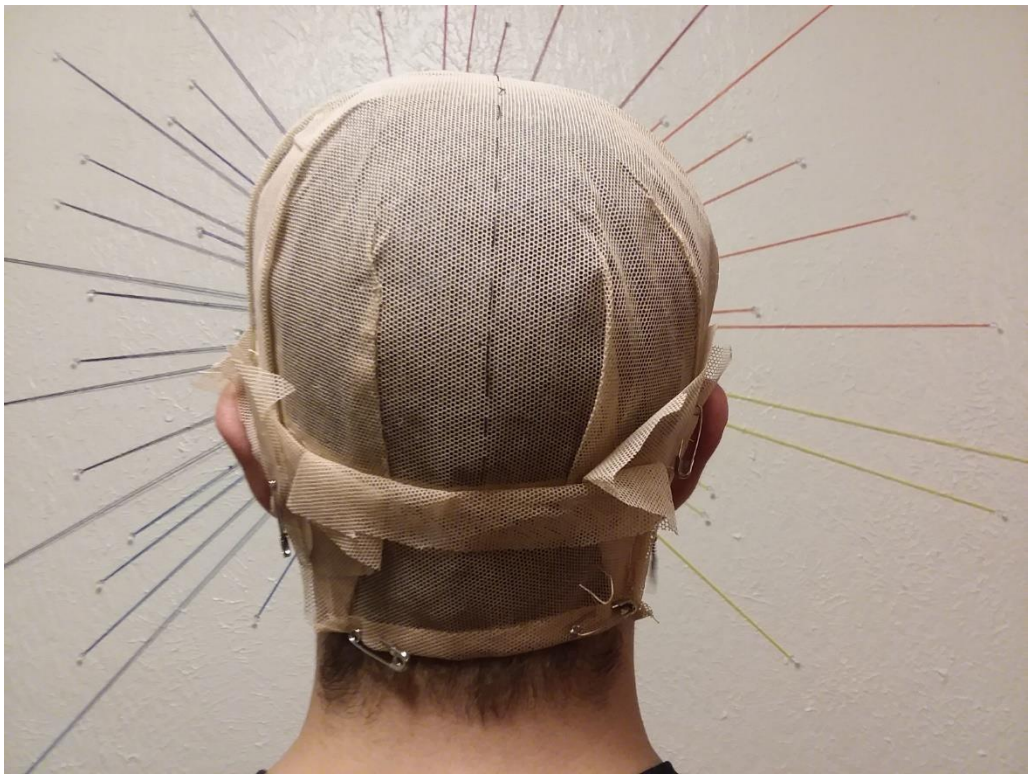

Illustration 27: Nava wearing the wig base during a fitting. He is facing a piece of contemporary art on his wall.

Next, two pieces of cotton lace were darted into the shape of Nava's head. A large piece covers the skull, and a second smaller piece starts at the skull and ends at the nape as seen in the illustration above. Because this was my first wig foundation and because I'm accustomed to making mock ups and having fittings, I basted the cotton in place and had a fitting. I adjusted some darts and lengthened the lace at the nape. I noticed how the lace at the sideburns and nape were inclined to flare out from Nava's head. Alison Lowery explained that this was common during this time because wig bases were not stretchy and capable of hugging the way they do today with modern elastic. Sometimes a draw string mechanism was used in the 18th century, but it was common for the wearer's natural hair to peak out from beneath the wig. Lowery suggested that I place millinery wire encased in

tape to control these areas. She explained that there are historical examples of this trick. They are known as “ear springs” and “nape springs”.

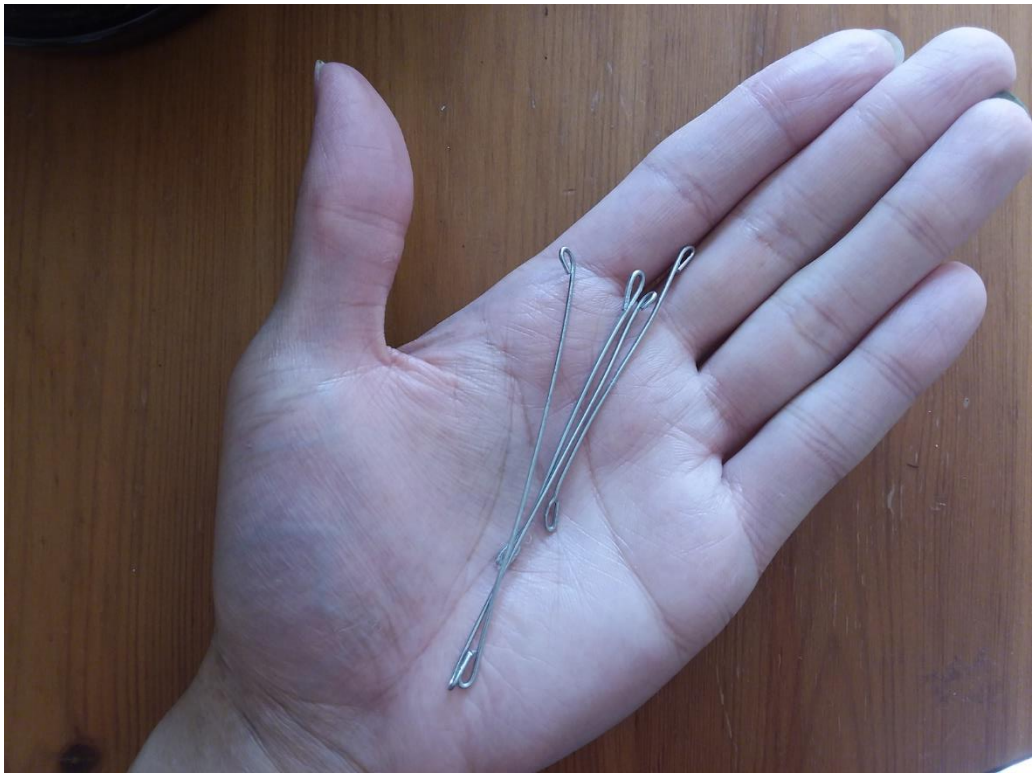

Illustration 28: Millinery wire to be sewn into the wig to follow the contours of the head.

Illustration 29: The interior of the nape of the neck. Covered millinery wires are placed diagonally on top of the lower darts to help the bottom conform to the head shape.

Illustration 30: Nava trying on the wig base during the second fitting.

The cotton lace was folded under at the edges and whip stitched at the tapes and darts. After my second fitting I was still dissatisfied at how much the fabric drew up during my stitching thus revealing a large amount of Nava's natural hair behind the ear. Lowery assures me that this area will be covered by hair from the queue.

Illustration 31: A historical wig on display at the Victoria and Albert Museum showing a wig based made from white fabric matching the white hair.

While visiting London, I had hoped to research the construction of barrister wigs which are used for English legal dress today. All of the legal dress shops I contacted and visited were extremely protective of their techniques, but one gentleman was kind enough for me to see, but not photograph, the interior of a wig in his shop. He also gave me a free history book about legal dress because he felt sorry about not being able to reveal more information. Fortunately, at the Victoria and Albert Museum, I was able to see an example of one of the rare wigs that survived beyond the 18th century. While admiring this artifact I came to a rather embarrassing realization; my wig caul was made with a flesh color cotton lace because I thought I should match the scalp. The historical example I saw had a white caul, which made the hair look fuller from a distance. Barbie dolls also have scalps painted

to match their hair color. When I returned from my trip, I dyed my extra lace grey, and made a new caul because I feared dying my existing caul would cause shrinkage. This also gave me the chance to cover more of Nava's hair behind his ear.

Illustration 32: Nava wearing my second wig base.

For the hairline, wig maker and instructor Michael Meyer suggested that I create a row of "fly wefts" which have the roots of the hairs point in the opposite direction of the tips. The shorter ends are then pressed toward the longer strands to help disguise the line of the weaving. It also adds lift to the hairline.

Illustration 33: Fly weft for the hairline.

After the majority of my wefts were complete, I began attaching them to the caul using a plain running stitch consistent with historical wig making. Just to be playful with the design, I decided to add a subtle modern twist to the wig by creating a side part and combing the hair at the crown diagonally. Historically, the hair was boiled and baked on clay rollers to create curls. To cut down on cost and time, I decided to use modern heat tools instead.

The yak hair is slightly kinky, so I flat ironed the entire wig. I used a curling iron for the curls on the side (historically known as “buckles”), and secured them with bobby pins. I did a tight braid for the queue, tied a cotton ribbon at the base, and added a curl below it for a flourish. Styling pomades made from 18th century recipes are sold on www.etsy.com, but I did not like the idea of using a product containing animal fat. Instead

I purchased Every Man Jack matte finish pomade which is advertised as having naturally derived ingredients. Orange blossom or amber would have been a historically correct fragrance for the wig. But for my own amusement I added a few drops of jasmine essential oil instead because I found some in my bathroom drawer.

There are approximately 110 inches of hair wefts on my wig. When I began the process, it took about 40 minutes to create one inch of hair weft. I eventually improved my speed to an average of 20-30 minutes per inch. There are 23 inches of fly weft along the part and hairline. Because this weaving method involves one less pass through the threads, I was able to accomplish an inch in about 25 minutes. My assumption is the wig required a bit over 100 hours to build. Because the weaving is repetitive and relaxing, I was able to enjoy podcasts, phone conversations, and episodes of *Downton Abbey*. Having attempted my first wig and learning from my mistakes, I hope to do additional research and one day build a second from this time period to fit my own head. Also, I overestimated the supplies needed and I have plenty of yak hair, cotton lace, and thread left over.

Illustration 34: A quick and casual photo of Nava in the finished wig before heavy styling which was meant to occur before his dance performance. Due to social distancing during the coronavirus pandemic, I was unable to have a formal photoshoot with Nava during the spring or summer of 2020.

Illustration 35: The front view of my finished and fully styled wig in front of weaving sticks and a drawing card.

Illustration 36: A side view of my finished and fully styled wig in front of weaving sticks and a drawing card.

Chapter 4: Bobbin Lacemaking

> It is difficult for us, the inhabitants of a utilitarian society, to imagine a world in which lace was a prized possession and to understand the noblemen of sixteenth, seventeenth, and eighteenth centuries, who went so far as to sell their land, the basis of their wealth and power, but buy lace. Today most lace is machine made and relatively inexpensive, and much of it is not even especially beautiful. (Bath 1)

Presently, you can go to a fabric shop and find nylon or polyester lace fabric and spend $1.00 per yard if you have a good coupon. But how many people stop to consider the history and significance of lace? Do they ponder its origins as they hold this inexpensive, machine-made fabric that mimics an ancient handmade textile?

It is believed that bobbin lace's European debut occurred in 15th century Italy. It may have been born there, or perhaps it was introduced to the Italians by Croatians from the Dalmatia region. The ancestry of bobbin lace can be found globally in the form of handmade nets from Egypt, China, England, Scandinavia, and Peru. Chronologically, Italian needle lace precedes bobbin lace. Eventually the lace industry was flourishing in Flanders, Milan, England, France, and Holland, it could only be worn by clergymen and nobility with costs comparable to modern day luxury cars. It was even required for men to wear lace on their shirts at court. The lace industry was demolished by the shift in values during the Age of Enlightenment (1715-1789) and the French Revolution (1789-1799) when fashion lost much of its opulence. It took another blow in 1818 with the arrival of the bobbin net machine invented by John Heathcoat in England:

> Although the machine lace was considered an imitation at first and was not readily accepted, its lower price and availability quickly overcame the public's initial

> apprehension. Handmade lace became less and less in demand, even for very special occasions. (Fuhrmann 14)

> Since bobbin lace was made primarily by professional lacemakers and was not practiced as a hobby, the technique would probably have been forgotten had it not been for the [Eastern European and Russian] peasant lacemakers. While the professionals made the fancy lace styles marked for their originality and fragile beauty, peasants produced humble lace to decorate their daily clothes and costumes. (Fuhrmann 14)

The first time I heard of bobbin lacemaking was from my father after he returned from a business trip to Brussels in the early 2000s. He enthusiastically told me about the many hard working lacemakers he saw in the markets who sold their beautifully intricate lace pieces to tourists. Several years later, and after I decided on this thesis project, I found myself watching a BBC television program with a featurette on Honiton Bobbin Lace.

While working as a summer costume intern at Great River Shakespeare Festival in Winona, Minnesota I attempted two simple exercises from Brigita Fuhrmann's book *Bobbin Lace An Illustrated Guide to Traditional and Contemporary Techniques* to see if I had the head and hands for this craft. I acquired a set of wooden bobbins from Jo-Ann Fabrics and Crafts' online store, a corkboard, quilter's pins, grid paper, and crochet cotton from Walmart. I did not find the process as simple or relaxing as knitting, and yet I was inspired to learn more because I am eager to develop an understanding for as many textile arts as possible.

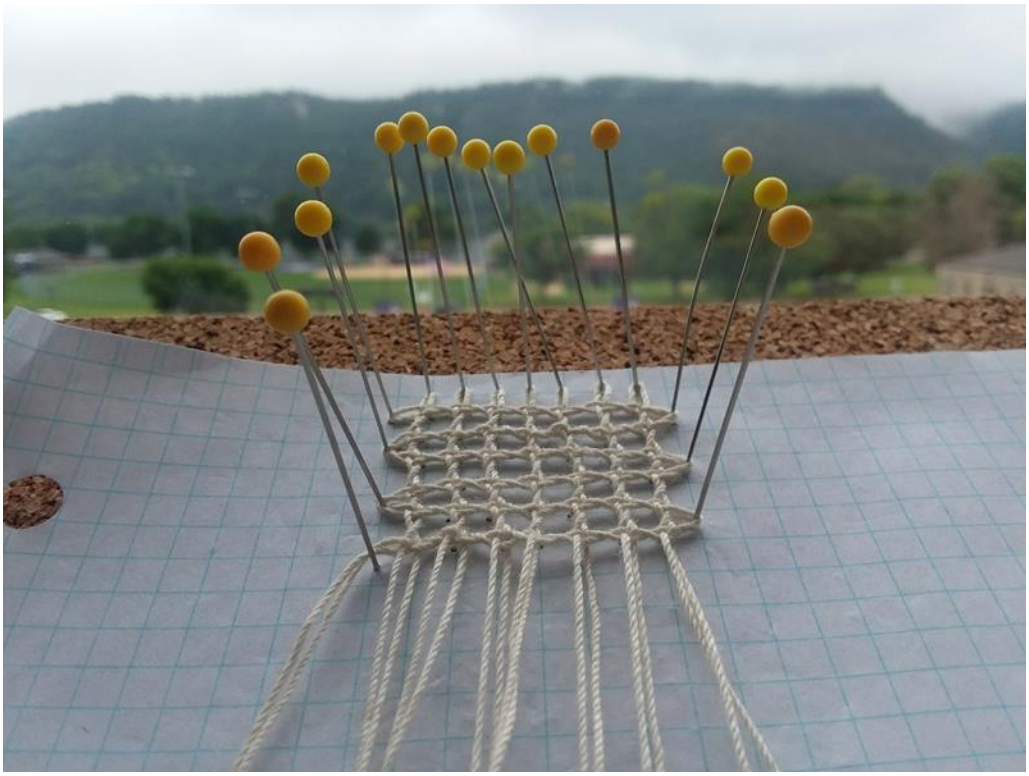

Illustration 37: A few rows of whole stitch ground (also known as the cloth stitch) on my first bobbin lace sample. The weaver pair creates the horizontal lines.

Cotton and linen threads are preferred over synthetic because they are easier to work with and are better at holding the shape of the design, however, some artists work with wire or metallic covered threads. The length of the threads depends on the size of the project. In many cases, it is advised that the length of each thread be six times the length of the finished project. Fortunately, more thread can be woven in if the lacemaker runs out. The halfway point of the strand of thread is located and temporarily secured with a straight pin. Both ends are repeatedly wrapped around a pair of bobbins so they both have the same amount of thread and a thread hitch is created so that the bobbins do not easily unwind as seen in illustration 38 below. The amount of bobbin pairs needed depends on the complexity and size of the design.

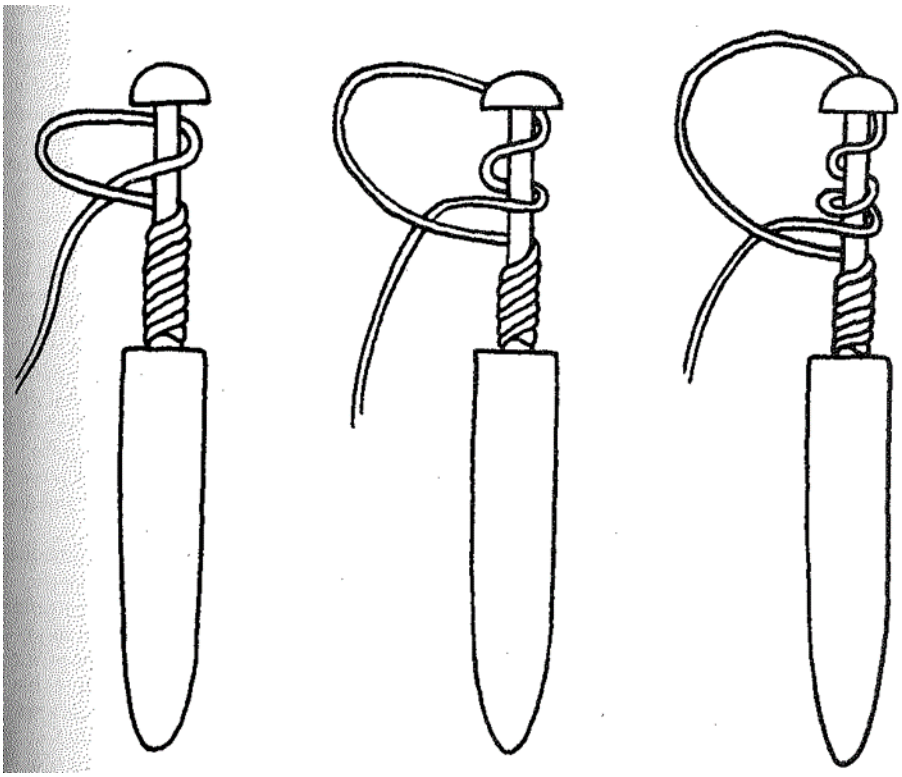

Illustration 38: From left to right, illustrations of how to wrap a single, double, and triple hitch from the book *Bobbin Lace An Illustrated Guide to Traditional and Contemporary Techniques*, (pg. 45) by Brigita Fuhrmann.

To begin creating a piece of bobbin lace, a pattern is photocopied or drawn onto heavy cardstock paper. This is called the "pricking". Some lacemakers chose to extend the life of their prickings by covering them in clear adhesive contact paper. The chosen pricking is then secured on top of a lacemaking pillow with straight pins. Many pillows are dome shaped circles called "cookies" ranging from 15-30" in diameter (see illustration 41), but when one needs to create long yardage of tape lace, a cylindrical rolling pillow may be used (see illustration 53). This way a pattern can wrap around the cylinder and be

rotated as needed. Traditionally, these cloth covered pillows are stuffed with straw, sand, or saw dust, but many lacemakers in our time use pillows with an Ethafoam core.

Pins are pushed into the pricking on the pillow at the start of a pattern and the bobbins are introduced by hanging the middle of the length of thread over these initial pins (see illustration 40 and 46). The long threads wrapped around the bobbins are worked directly over the pricking to create the desired lace design and additional pins are added throughout the lacemaking process to preserve the shape of the design. Some designs require that additional bobbins be introduced after a number of initial threads are manipulated. Because the process of making bobbin lace is very versatile, it can produce endless shapes and designs ranging from traditional geometric and floral patterns, to contemporary, or abstract pieces. Bobbin lace can take on the shape of a cartoon character, or an ornate scene with plants, animals, and people.

What I found shocking about making bobbin lace is that most of the work is achieved by two simple motions: the cross (C), and the twist (T). For example, if a beginner starts with four parallel bobbins, they will learn that a cross is when the second to left bobbin moves over the second to right bobbin. After being assigned new positions, the twist occurs when the bobbin on the far right and second from the left both simultaneously pass over the bobbins to their left (using both hands) (see illustration 40) Depending on the design, a twist occasionally occurs with one bobbin moving to the left instead of two.

For example, My first sample shown in illustration 37 was a whole stitch ground where one weaver or leader pair moves across passive pairs similar to weft threads passing through warp threads on plain woven fabric (see Illustration 39). The instructions for the whole stitch ground are simply cross, twist, cross, twist. This motion is known as a whole stitch and is abbreviated as CTCT. I designated one pair as the weavers, or bobbins that will release lengths of threads horizontally. The others were passive threads which hang

vertically, intersecting the weaver threads perpendicularly, and require a shorter length of thread. The weaver pair moves with the CTCT motion from the farthest left passive pair to the farthest right passive pair, and then back again from farthest right passive pair to farthest left passive pair.

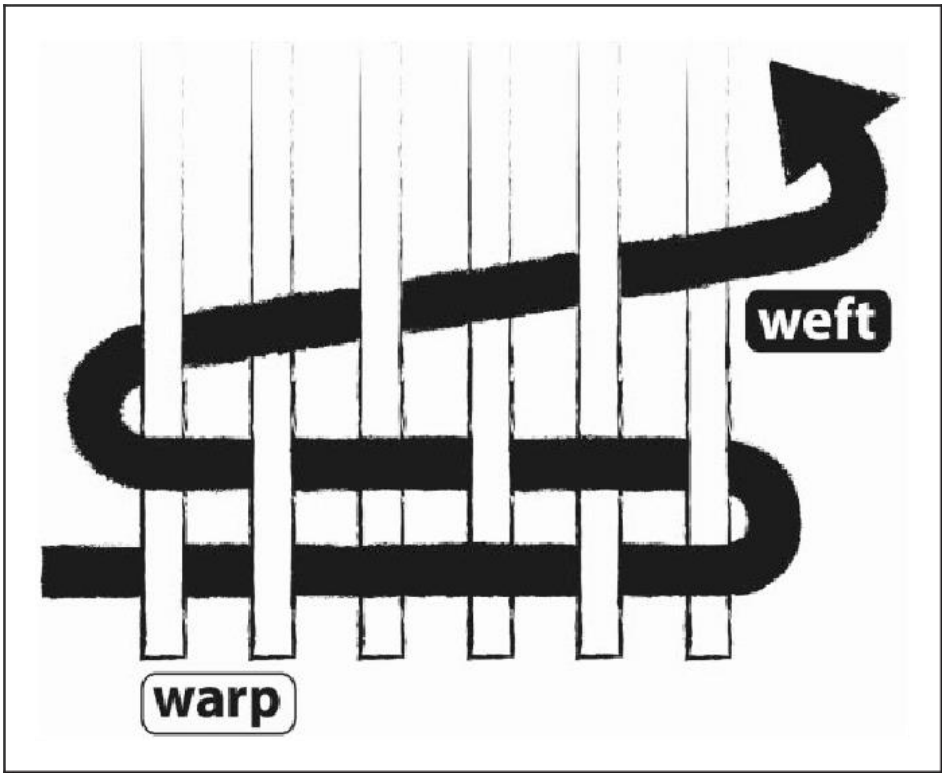

Illustration 39: A diagram of warp and weft threads (which could be seen on a plain weave cloth) from the Weaving Community-University Research and Action Partnerships for environmental justice

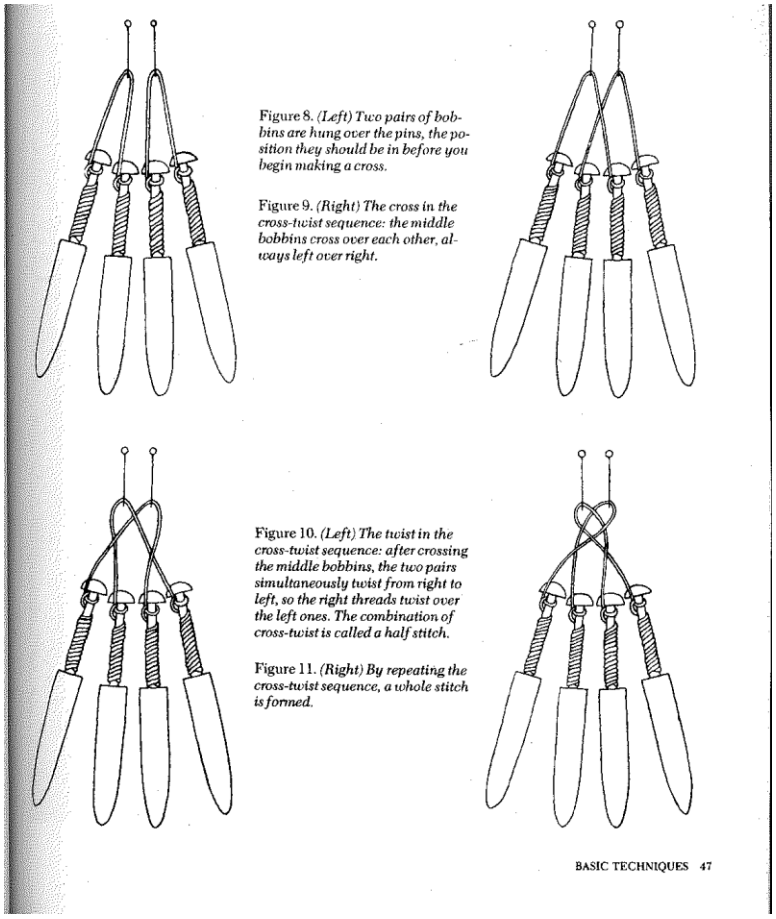

Figure 8. *(Left) Two pairs of bobbins are hung over the pins, the position they should be in before you begin making a cross.*

Figure 9. *(Right) The cross in the cross-twist sequence: the middle bobbins cross over each other, always left over right.*

Figure 10. *(Left) The twist in the cross-twist sequence: after crossing the middle bobbins, the two pairs simultaneously twist from right to left, so the right threads twist over the left ones. The combination of cross-twist is called a half stitch.*

Figure 11. *(Right) By repeating the cross-twist sequence, a whole stitch is formed.*

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Illustration 40: A cross and twist illustration from the book *Bobbin Lace An Illustrated Guide to Traditional and Contemporary Techniques* (pg. 47) by Brigita Fuhrmann.

After reading Fuhrmann's book I had a basic understanding of lacemaking but I knew that I would need more knowledge and practice if I were to make something attractive enough to adorn a shirt. That summer I was thrilled upon discovering that Austin has a Lacemakers Guild. In September of 2018 I attended their monthly meeting for the first time and the members were very excited to hear about my thesis project.

Austin Lacemakers offers three weekly Tuesday classes taught by Karen Hickman. She is a very knowledgeable and patient instructor who just began making bobbin lace in 2003 after her retirement from being a librarian. At 10:30am the North Austin class begins at an assisted living center and the 1pm class takes place at the Pflugerville Recreation Center. Her third Tuesday classes are in Killeen, TX. Students pay a mere $3.00 for a two-hour class. This small fee includes one-on-one instruction, supplies for beginner projects, and Mrs. Hickman's 24/7 lace emergency support via text, email, Facebook chat, or skype.

I began attending the North Austin and Pflugerville classes during the academic winter break in 2018 and paused when the university classes were back in session. Because Lacemaking is not for everyone, Mrs. Hickman lends her personal supplies to new students just to be sure that they enjoy the process before investing in the craft. She starts her new students off by guiding them through five bookmark exercises using thick threads in two contrasting colors so they can easily see and understand the route each thread takes through the lace design they are creating. My fifth bookmark exercise appears in the illustration below.

Illustration 41: My fifth bookmark exercise was a practice making spiders. The round cookie pillow was supplied by Karen Hickman. The wooden bobbins are inserted into a few rows of crocheted yarn to preserve their location and prevent tangling threads.

After a student has graduated from the suggested bookmark exercises, they receive a small tatted lace porcupine badge (the mascot of lacemaking) created by Mrs. Hickman, and they may proceed to a project of their choice. A traditional piece of lace for a man's bosom ruffle from the 18th century (see illustration 43) would be too advanced for a beginner such as myself to tackle during my thesis timeline, so I sought an intermediate, more contemporary narrow tape lace pattern to sew to the edge of a wider piece of cotton fabric. Mrs. Hickman showed me a multitude of designs from her personal library, but in the end I found my perfect pattern on pinterest.com from an early 1900s Spanish magazine

called *El Consultor de los Bordados* (see illustration 44). I was drawn to this design because it was geometric, clean, botanical, and simultaneously modern and classic.

Illustration 42: A tatted porcupine made by Karen Hickman as a gift to her students after they complete their bookmark exercises. Tatting is a different lacemaking technique that started after bobbin lace.

Illustration 43: French bobbin lace from the 1720s. Photo courtesy of The Victoria and Albert Museum. Museum number T.138-1992

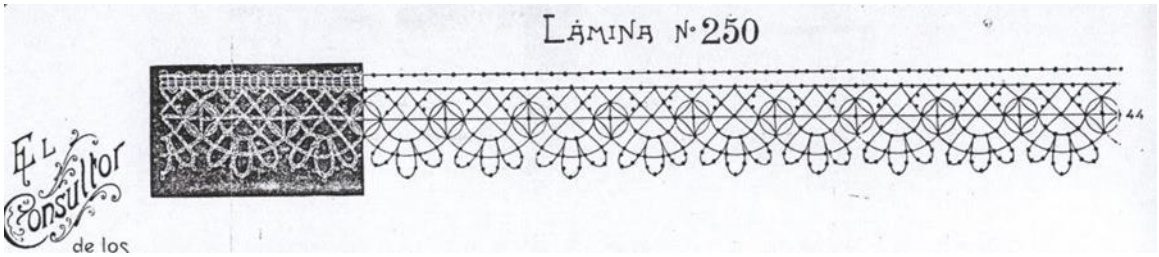

Illustration 44: The Edwardian pricking I selected for my tape lace found on Pinterest from *El Consultor de los Bordados*.

Most prickings do not come with instructions. The lacemaker must rely on their knowledge, creativity, and/or a photograph of finished lace to determine the path of the bobbin pairs and the techniques to be used. There are several ways to accomplish the design I selected. Luckily, Mrs. Hickman provides her students with expert guidance. By looking at my chosen pricking, she was able to determine the number of bobbins I needed and she generated a vital color-coded diagram which showed me a way the threads would move throughout the design. When I prepared my bobbins, I differentiated them by wrapping them with small colorful hair rubber bands (as seen in illustration 53)

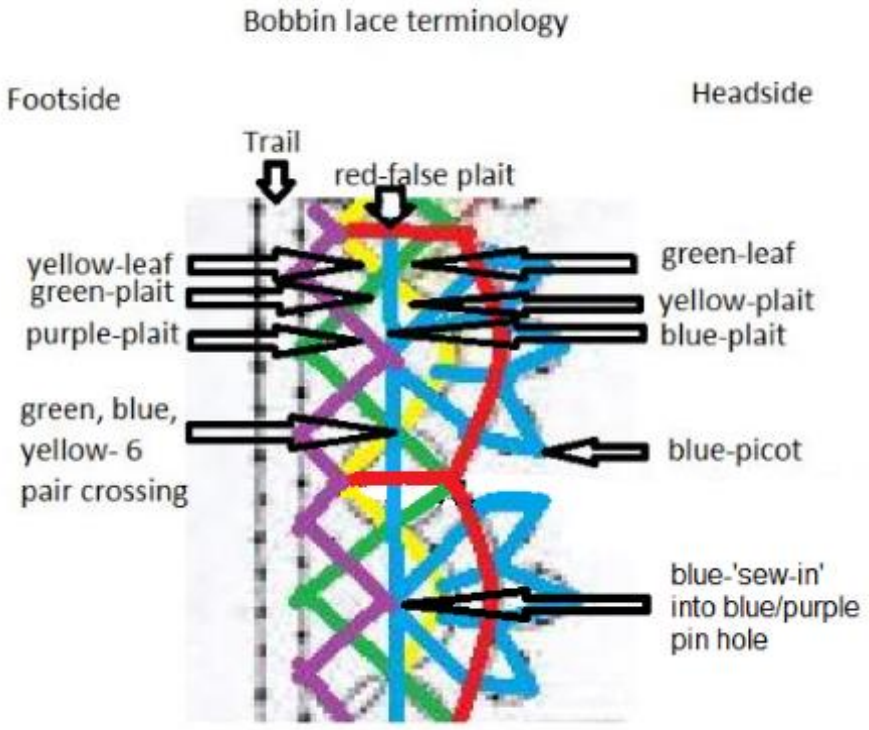

Illustration 45: Pricking flow chart diagram created for me by Karen Hickman

Illustration 46: The beginning of my tape lace.

To begin my tape lace, I wrapped the laminated pricking around a cylindrical pillow embedded in a half cookie pillow from Mrs. Hickman's personal collection (see illustrations 46 and 53). 30 bobbins, or 15 pairs, were wrapped in Egyptian cotton thread from Germany. We hung a few bobbin pairs around pins and wove them together through a series of whole and half stitches forming a straight edge for the beginning. Gradually the remaining bobbins were introduced. Each of the five colors on my pricking chart created by Mrs. Hickman (in illustration 45) represent 4 bobbins (or two pairs). The blank column on the left side labeled "trail" was occupied by 8 bobbins. It is here that the threads were woven to make the cloth stitch or whole stitch ground with a weaver pair moving throughout passive bobbins via CTCT (see illustration 37 and 47).

Illustration 47: On the left side of the lace is one row of the cloth stitch or whole stitch ground before it is tensioned and pinned into place. The weaver pair is on the far left.

Aside from the trail on the foot side of the pattern, most of the threads form a 4-strand braid or "plait" which is achieved by a CTC to start and then repeating TC, TC until the plait is ready to intersect with another line. Where the yellow and green lines form a circular shape together, the 4 bobbins make a circle of four tallies or leaves, wherein one strand of thread is woven between three warp strands. That is to say, one bobbin moves horizontally over and under three inactive vertical threads (see illustration 48). Each individual tally starts and finishes with a cloth stitch (CTC).

Illustration 48: Two finished tallies before they are joined with the six pair crossing.

At the peak of the blue points you will find small single thread loops or picots, which I found to be the most challenging step to understand. A pin interacts with one pair of bobbins. The tip of the pin goes under the right thread then over the left (illustration 49 step 1). The pin then comes out, point facing downward (illustration 49 step 2), in between both strands on the bottom side, wraps over the right thread again (step 3), and comes out between the two strands on the upper side of the knot with the tip facing up (step 4). The threads are positioned so that one strand forms a loop (step 5) which is finally positioned on the pricking and tightened into its proper shape. (step 6)

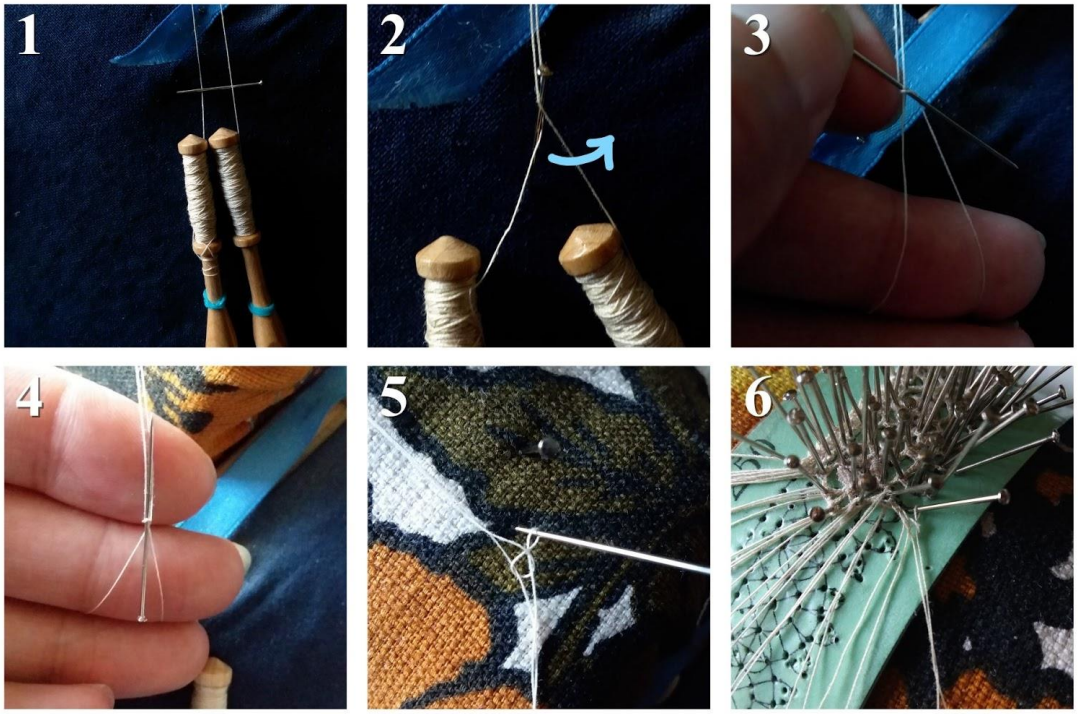

Illustration 49: A step by step chart for making a right-side picot.

To intersect the tallies and plaits, in most areas eight bobbins will interact with each other but they move in pairs. That is to say, two bobbins behave as one, moving as one unit and a cloth stitch is executed. To reduce bulk at some intersections another method is used wherein only one pair from each colliding plait or tally performs the cloth stitch, leaving the other four bobbins passive. This occurs when the plaits meet two tallies on the foot side (purple touching yellow) and where the red line touches the yellow line. The plaits attach to the trail of the lace when one pair from the plait (represented on the

diagram in purple and green) join in the whole stitching done by the weaver pair for one pass.

A challenging moment that I enjoyed in my tape lace instructions is known as the six pair crossing. This occurs before and after the circle of four tallies is created. Threads from 12 bobbins interact in pairs to create an intricate and small weaving resulting in four bobbins on the left trading places with four bobbins on the right while the four bobbins in the center remain in their place. With the help of instructions and a diagram I was able to commit this process to memory after approximately 20 or 30 attempts.

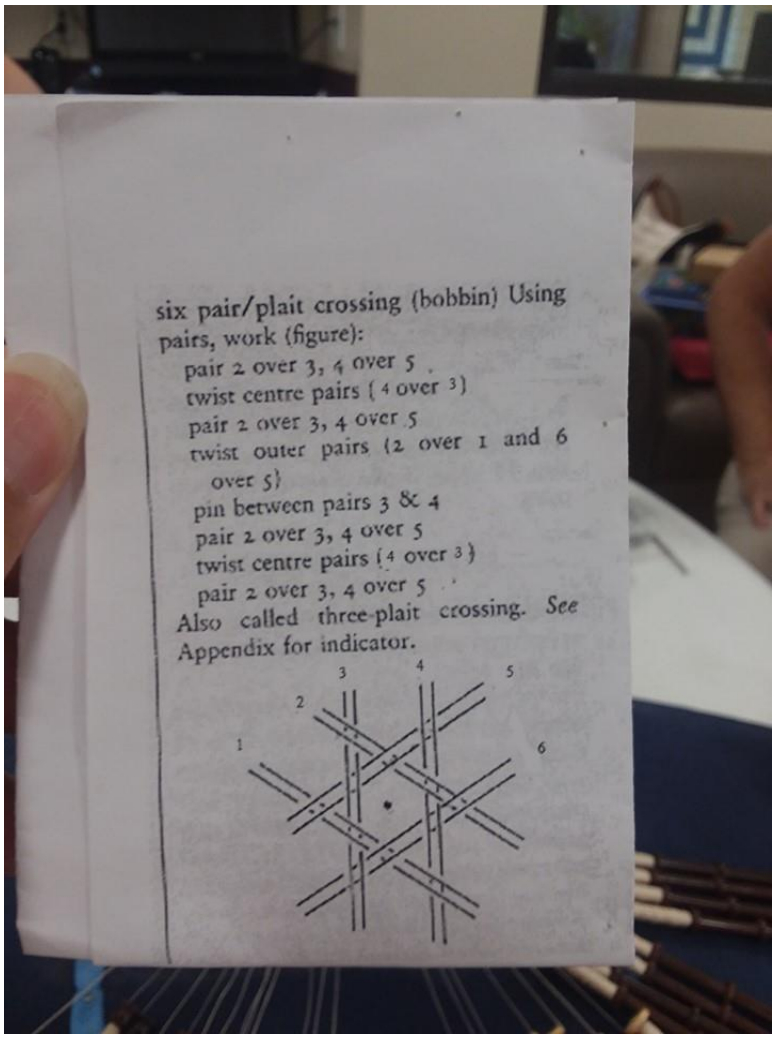

Illustration 50: The six pair or plait crossing diagram and instructions from Alexandra Stillwell's book *Cassell Illustrated Dictionary of Lacemaking*

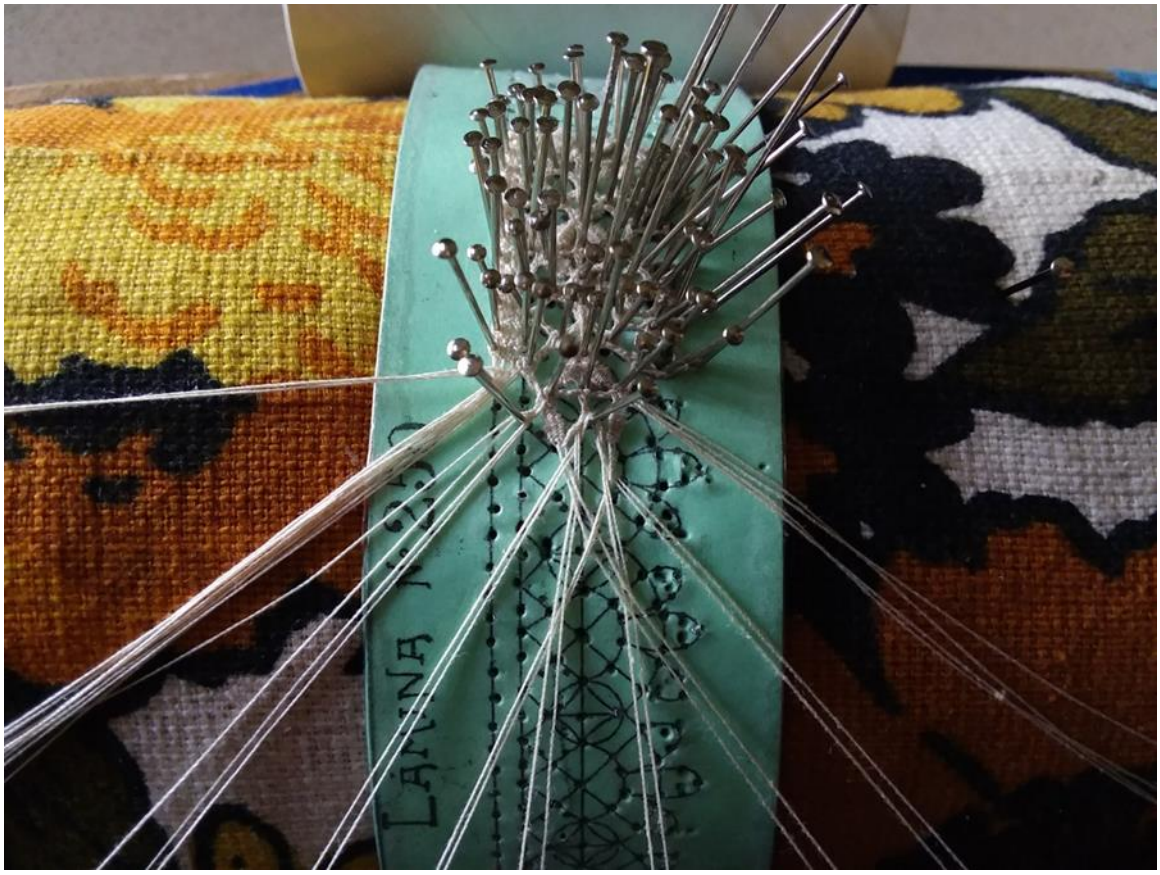

Illustration 51: All steps of the six pair crossing completed before the threads are tightened into place.

A false plait occurs along the red line when it moves through the four tallies and blue plait. From a distance it resembles the four-strand plait, but is required when it is not possible to create a braid on a given line. This is achieved by leaving behind the red pair on the right side, and twisting (left bobbin over right) the left pair 3 times until it reaches the blue line for a cloth stitch. Here the 4 bobbins represented by the blue line behave as two bobbins while the two red bobbins remain separate. The red bobbins twist another 3 times and meet the right pair from the yellow tally so those four bobbins can make a cloth stitch, place a pin, cloth stitch. (Performing the cloth stitch, pin, cloth stitch will make the bobbins turn around and reverse instead of proceeding forward on their trajectory.) As the

red pair returns to the right side of the piece, thus complete the false plait, they twist twice again. A crochet hook is used to draw up the strand of thread from the right side bobbin underneath the twisted threads from earlier, (illustration 52 step 1 and 2) forming a loop through which the other bobbin passes (illustration 52 Step 3) . Creating a loop for another bobbin to pass through in this way is known as a “sew-in”. A cloth stitch occurs again with the blue bobbins, and the twisting and sew-in occurs once more. Finally, the red bobbins are woven, two as one left to right, and over under the pairs from the green tally, thus reuniting them again with the other red pair.

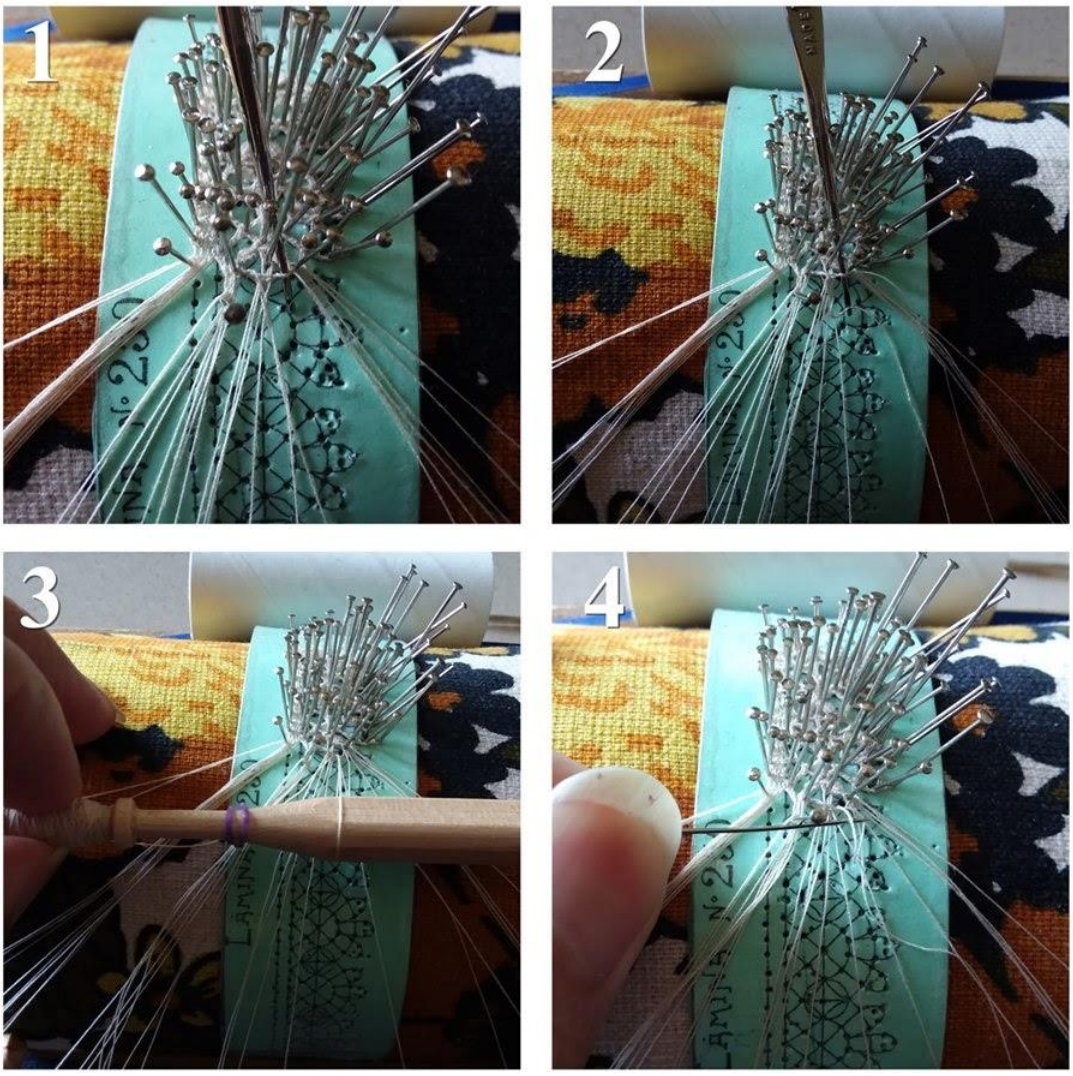

Illustration 52: A step by step diagram for creating a “sew-in” during a false plait.

“Sew-ins” also occur when cloth stitches cannot join two plaits. This can be found when the blue line makes a sharp turn after joining the purple. Two strands from the blue bobbins are drawn through a hole in the work, and the other two blue bobbins pass through the loop.

As I recall and describe the instructions for this pattern I am reminded of its complexity. Fortunately, after creating the first 2 or 3 inches, the steps became very logical and turned into muscle memory. In time I could even identify many of my own mistakes and even reverse my work to fix them if it wasn't too late. Two of the most important things to remember when making bobbin lace is to check that no threads are unintentionally wrapped around one of the many straight pins holding the design in place, and to “tension your bobbins” as Mrs. Hickman would say. Tugging on the bobbins lightly and frequently assures that there is no extra slack which would cause unwanted loops and sloppiness.

Illustration 53: A process photo of approximately 20” of bobbin lace. The cookie pillow Karen Hickman lent me is a half cookie with a rolling pillow embedded at the top.

I estimate that creating forty inches of my bobbin lace took slightly over 100 hours. After becoming familiar with the instructions, I was able to produce half an inch of lace in one hour at a casual pace. When working outside of class I would entertain myself with episodes of the *X-Files.* I began in mid-June of 2019 and finished in mid-January of 2020. To create a finished edge with a straight line, Mrs. Hickman taught me the Bruges finish. Her helpful written instructions she sent me via Facebook Messenger for this technique are as follows:

> Starting at the left - do a right bobbin over the left bobbin for a tie. Place the right bobbin down on the pillow under the left bobbin. Keep your bobbins in place. Pick up the next right bobbin & repeat with the right bobbin over the left bobbin in a tie. Place the right bobbin down on the pillow under the left bobbin. Repeat the process through all the bobbins to your right. When you have reached the last bobbin, after doing the right bobbin over the left bobbin with a tie, then do the *left bobbin over the right in a tie. (Square knot) Place the left bobbin down on your pillow over the right bobbin. Pick up the next left bobbin. * Repeat across working back to the left. When you have reached the last bobbin on the left & after doing the left bobbin over the right bobbin in a tie, finish with the right bobbin over the left bobbin in a tie. (Square knot) (Hickman)

I washed the lace in cool water to clean it and allow it to shrink before applying it to the shirt's bosom ruffle. To restore the shape of the design it must be blocked on a flat surface using several straight pins to re-establish the original shape. The tape lace was drying before I could finish pinning it so I had to re-dampen a large section.

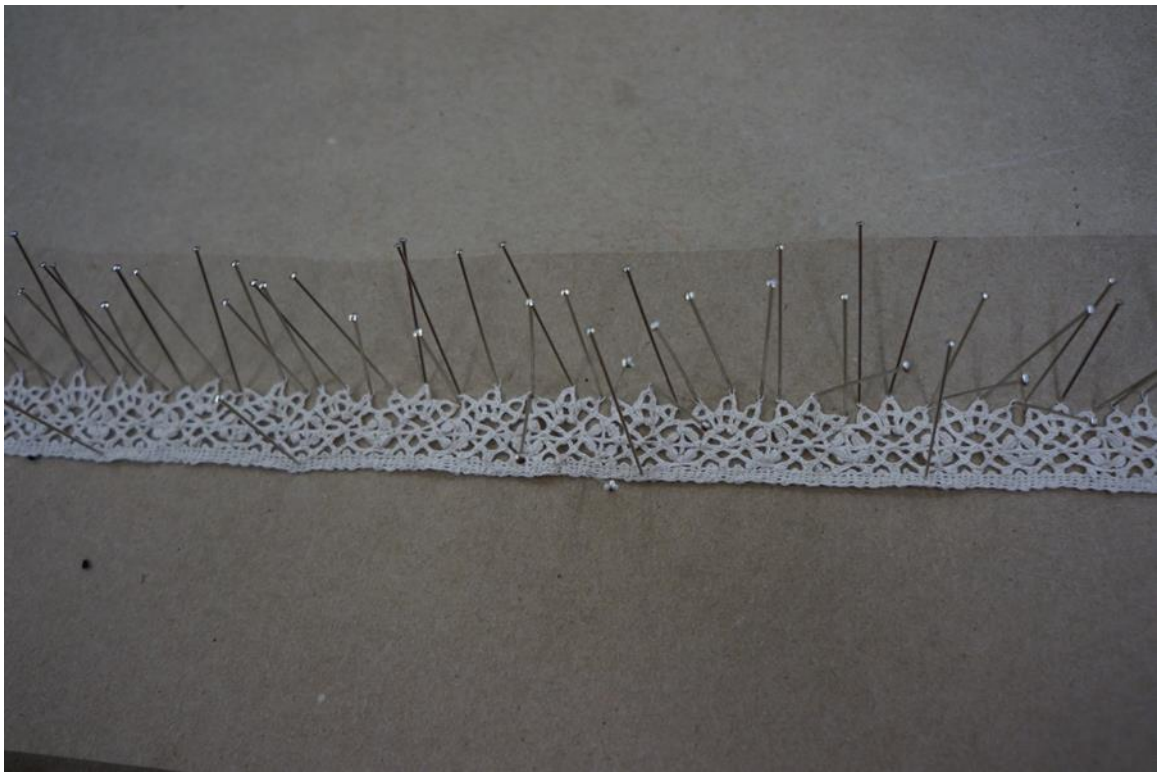

Illustration 54: Blocking the damp bobbin lace on my school work table.

Out of all of the crafts I have practiced, I find lacemaking to be the most physically uncomfortable. I tried working on tables of varying heights, but I always found it necessary to take frequent breaks and I was generally not able to accomplish more than 4 or 5 hours of lacemaking in one day. Truthfully there were times when I thoroughly enjoyed the process and times when I vowed to never make lace again. I was not surprised when Mrs. Hickman explained that during the Tudor era, many professional lacemakers would master one pattern and go blind at an early age. Nevertheless, finishing this bobbin lace has given me a great sense of pride because it is the most intricate item I have ever created.

Chapter 5: Embroidering the Waistcoat

I wish that I could have spent five years on this thesis. I look forward to additional exploration on historical garment construction, and I would love to create similar projects throughout my career and also in my free time without the constraints of a deadline. Setting realistic goals that fit into a specified amount of time however is a valuable lesson. With this in mind, I came to the realization that I had to accomplish my embroidery in one month. This meant that I had to restrict my embroidery to only appear on the waistcoat when I initially envisioned an embroidered coat with embroidered covered buttons.

It took several months to decide on my embroidery design. I knew I wanted something somber and natural. After hours of searching for inspiration, I set books and websites aside and decided to pay more attention to the foliage I encounter when walking outside. I began collecting and pressing specimens from trees, bushes, and vines until I found an inspirational vine growing on a fence at a bus stop. I identified this vine as *Ficus Pumila* or Climbing Fig. While sketching ideas, I decided to make the embroidery look wild and organic as opposed to the more controlled floral motifs which could be found on historical embroidery examples. While walking to class one day I admired honey bees working with blue aster flowers. This inspired me to embroider asters and a playful bee on a waistcoat pocket flap representing a hopeful future for our planet's bee population. The embroidery's intention is to celebrate the beauty of nature and represent harmony between mankind and the environment.

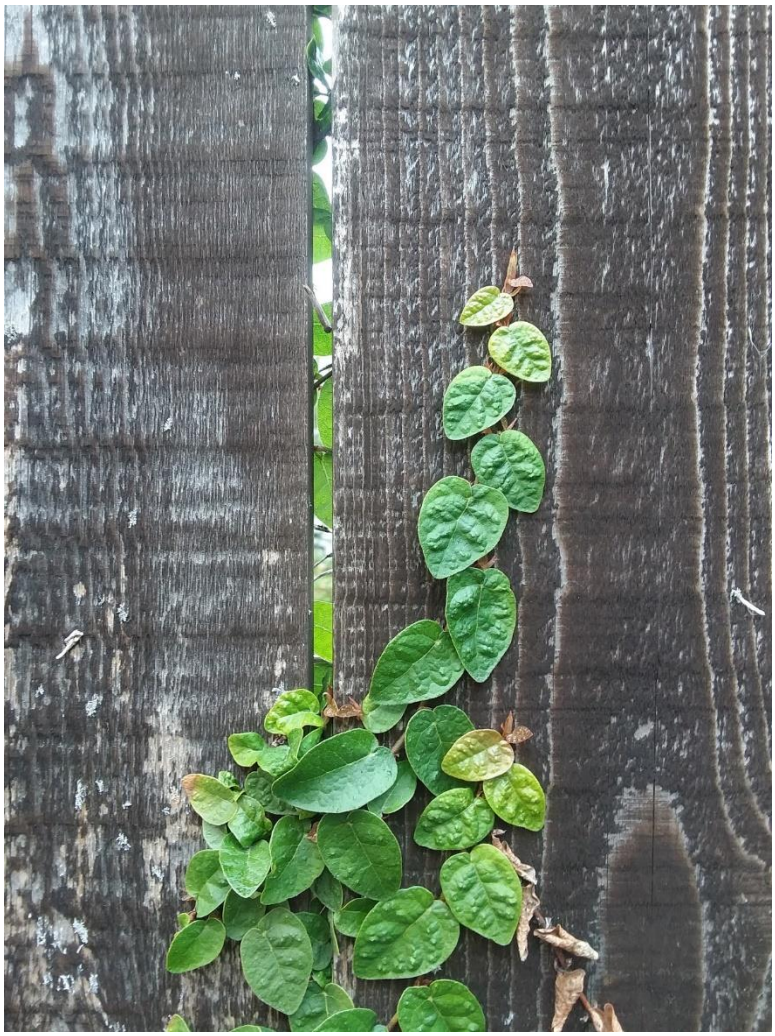

Illustration 55: Climbing fig growing on a fence by a bust stop near the UT Austin campus.

The wool fabrics for my garments are very textured. The coat fabric resembles moss, and the waistcoat wool reminds me of limestone. I made small embroidery samples in DMC six-strand cotton embroidery floss and with crewel wool from Appleton's Wool LTD. I decided that the crewel embroidery complimented the fabric best because it produced a dimensional, naturalistic, rustic, and humble affect. Although I am enamored

with this period in fashion history, I did not want this ensemble to appear too opulent with silky fabrics or flashy embroidery.

Illustration 56: My embroidery samples. From top to bottom and left to right; *Ficus pumila* on canvas with DMC embroidery floss, a wool covered button sample of a stylized flower stitched in a fingering weight knitting wool yarn, and Appleton's crewel wool, a stylized *Ficus pumila* stitched in crewel wool on unbleached linen, and stylized leaves stitched in DMC cotton embroidery floss.

Embroidery was another respectable needlework occupation greatly affected by the passing of time due to the evolution of fashion trends and automation. Although mostly a male dominated profession, embroidery was the highest paying trade job a woman could hold in the 18th century. However, here we find another example of unequal pay.

Professional embroiderers worked 14-hour days or longer and were paid based on their skill level and the amount of thread they stitched per day.

Embroidery, lace, calico, and quilt designs were created by professional pattern drawers. Elite clients could select designs from folios that would be professionally embroidered before garments were assembled. The majority of 18th embroidery on waistcoats however were not commissioned. Merchants and milliners sold pre-embroidered fabrics from which a tailor would cut out the pockets, buttons, and waistcoat fronts and assemble the pieces to fit a client's figure.

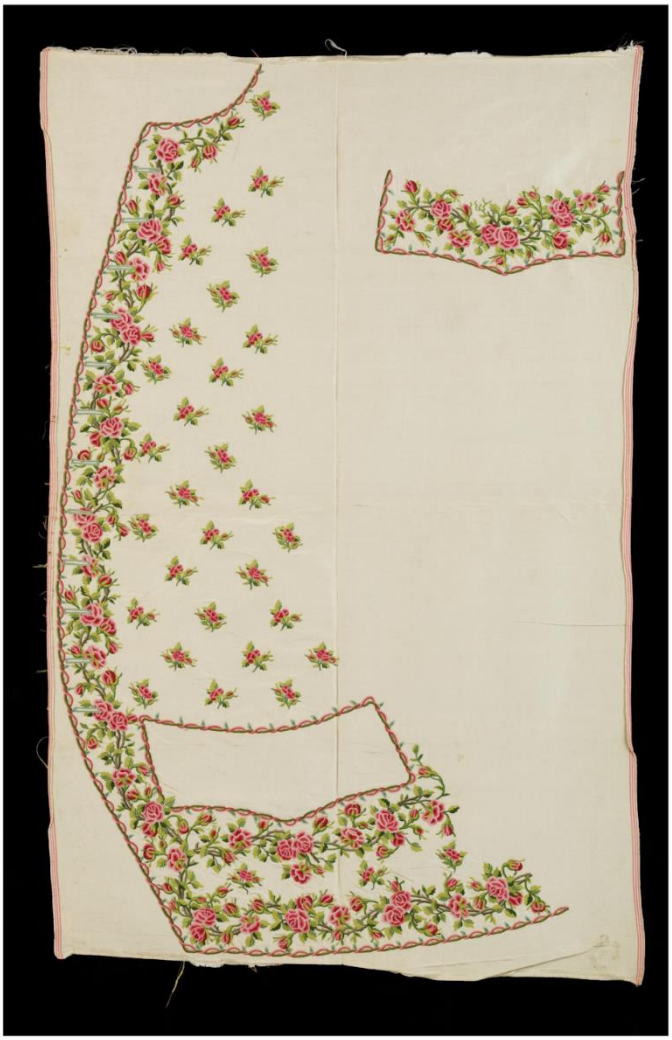

Illustration 57: A contraband 1750s waistcoat shape that was never sewn by a tailor. The fabric and threads are both silk. Courtesy of the V&A museum. Museum #T.12&A-1981

For those who could not afford professional embroidery, trendy magazines were available with embroidery designs to stitch at home for clothing and accessories. Due to the cost of cloth and clothing, embroidery was used to update pieces that were out of style. Golden threads were even picked out of outdated embroideries for pleasure in an upper-

class pastime known as “drizzling”. They would sell the threads to goldsmiths who would repurpose the scraps that were wrapped around the silk cores of metallic threads.

Crewel work is defined as embroidery stitching done in worsted wool. It first appears in 17th century Europe and demonstrates a heavy Indian influence inspired by textiles brought in by the East India Company. Crewel embroidery often was used to embellish undyed linen or cotton items that were frequently laundered. The designs were often vibrant fantastical plant and tree of life motifs.

Building An Embroidery Frame

To prevent fabric distortion and to facilitate the process, cloth to be embroidered must be tightly mounted in a hoop or frame. Generally, what we can find these days in craft stores are circular embroidery hoops no larger than 25” in diameter or lap frames around 1’x2’. While searching for an inexpensive creative solution to accommodate such a large embroidery project, a craftsman friend named Evan Weinberger expressed enthusiasm about recreating a very large 18th century slate frame based on an illustration in Diderot’s Pictorial Encyclopedia of Trades and Industry as seen below.

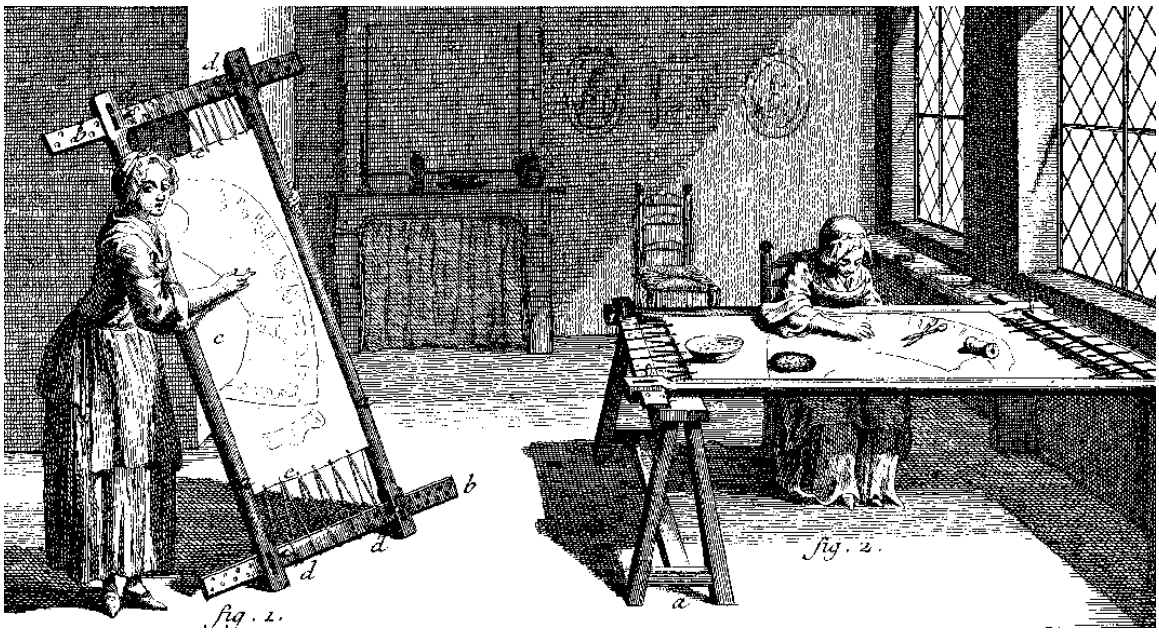

Illustration 58: Professional embroiderers from Denis Diderot's *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers*, 1763.

I did not want to subject such a helpful person to creating this device without the aid of modern machines. Evan Weinberger describes himself as,

> a craftsperson who has been working with wood and metal for two decades, and is not averse to applying modern conveniences to traditional techniques. Presently he works as a furniture designer, fabricator, and DIY advocator. (Weinberger)

He holds a membership to ATX Hackerspace where we worked together to shape four long pieces of lumber into a historical reproduction. Much like I am inclined to be a fabric snob, Evan was committed to using a quality, and historically accurate wood and even a historically inspired wood stain. He purchased cherry wood and white oak and Tried and True's linseed oil.

The dimensions of this frame were designed to support the coat panels with their full skirt without the need to roll any amount of fabric on the sides. Having omitted coat

embroidery after the frame was constructed, I have come to terms with the fact that I could have accomplished the embroidery on a smaller inexpensive plastic craft store frame, but now I have a very large and beautiful excuse to embroider an 18th century coat in the future.

Illustration 59: A staged photograph of me chiseling out one of four holes through which the laths pass.

While working at ATX hackerspace, I asked that Evan perform approximately 50% of the tasks so that I would observe him first, and try the machines for myself. Under his expert supervision we used a jointer and planer to cut the cherrywood and white oak. For the lath pieces at the top of and bottom of the frame, we used a drill press to create a series of ⅜" peg holes. For the two rollers, which reside on the left and right sides of the frame, we made four openings at the tops and bottoms through which the laths could pass. These started with a drill press and were finished with a chisel as shown in illustration 59. The sides of the rollers were rounded out using a router (see illustration 60) and the tops and bottoms of the rollers received a decorative octagonal shape by using a draw knife (see illustration 61).

After sanding the pieces manually with sandpaper and with a palm sander, we drilled a straight line of 79 pilot holes onto each roller. Using these as a guide I was able to secure a strip of 100% cotton webbing to the rollers using screws as seen in (illustration 66) to which I would later sew the wool to be embroidered. Historically, these strips would have been leather, but I chose cotton as a substitute for personal ethical reasons. I screwed the webbing in place after staining the wood with Tried and True's Linseed oil.

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Illustration 60: Weinberger testing the router on a piece of scrap wood.

Illustration 61: Weinberger using a draw knife to add a decorative shape to the top of a roller.

The Crewel Embroidery Process

In the 1700s an embroidery pattern would be copied onto paper meeting the dimensions of the garment to be embellished. The designs on the paper were perforated and laid over the fabric. A pounce bag filled with chalk, charcoal, or cinnamon was dabbed on the paper to transfer the dotted design. After carefully lifting this stencil off the fabric, solid lines were drawn over the pounce dots with ink made of white lead or India blue

(depending on the color of the fabric). This created longer lasting solid lines for the embroiderers to follow. I would have enjoyed attempting this method, however I took advantage of a modern light box and heat erasable Pilot Frixion markers to transfer my pattern so I could meet my project deadline.

My waistcoat fronts and pocket pattern shapes were thread-marked onto the wool. The embroidery pattern I drew to scale on paper was merely six curving lines which were tallest and center front and tapered down to shorter lines toward the sides. These were my basic vine and aster stem shapes. After transferring these lines with the lightbox to both panels of the waistcoat wool, with my Pilot Frixion markers, I freehanded additional off-shooting vines and leaves so that the sides would appear balanced but not identical. This intuitive method helped me to mimic wild plant growth. In a way it also made me feel like I was behaving quite differently than a digital or machine process as I made impulsive human choices. I noticed that the Frixion markings faded in a few days' time so I thread marked the vines and stems and periodically free-handed dozens of leaves as I embroidered. The leaves respectfully grow around button holes, but a few vines creep under pocket flaps, and some began growing at the top of the pocket flaps.

As per the instructions in Gail Marsh's book 18th Century Embroidery Techniques, with a running stitch I sewed strips of fabric to my 3 raw edges of cloth to protect the material from fraying. With sturdy hemp thread I did a rather large whip stitch along the top and bottom of the fabric, and a smaller whip stitch on the sides to the cotton webbing. It took about two hours to mount and tension the wool (see illustration 58).

I purchased two wooden ODDVALD trestles from IKEA to work similarly to embroiderers in the 18th century as seen on the right side of the Diderot diagram (see illustration 58) . I attempted to recreate the table-top setup but because of the dimensions of the wool, and my decision to neither roll the fabric nor embroider one side of the

waistcoat at a time, I found it impossible to reach my drawn design. Instead, I chose to sit comfortably on the floor working from the center front to side seams, and the bottom to the top. I relocated to chairs of various heights as needed and worked as if I were a painter at an easel.

Illustration 62: An ODDVALD Trestle from Ikea.com made of solid wood.

The opened leaves were embroidered with the fishbone stitch (see illustration 63) with Appleton Crewel Wool #245, #244, and #243. These shades do not resemble the colors of an actual living climbing fig, but instead they were intended to closely match the moss green hue of the jacket and breeches. These three greens were chosen to achieve a subtle gradient with the darkest color #245 on the bottom, and smaller leaves toward the top being stitched in #244 and #243. Mimicking the actual vine, leaves that have yet to

open were stitched in rusty shades #304 and #305 using a lazy daisy stitch filled in with one to three straight stitches (see illustration 64). The warm brown #587 stems were achieved using an outline stitch.

Fishbone Stitch No. 1

Although fishbone stitch no. 1 (see page 276) and fishbone stitch no. 2 share the same name, the effect produced from each is quite different.

Fishbone stitch no. 1 is a filling stitch used on plain- and even-weave fabrics. It is often used to fill petal and leaf shapes when the stitch lengths are graduated to follow the outline of the shape. It also makes an attractive solid border when the stitches are of equal length, and it makes a flat, solidly stitched surface in which the stitches cross one another at the center. A central vertical straight stitch is worked at the top and then slanting straight stitches are worked alternately from the center to each side of the shape. The stitches should be worked evenly, and very close together so that no ground fabric is visible. A lustrous embroidery thread, such as cotton or silk floss, will emphasize the different directions of the stitches. Fishbone stitch no.1 can be striped by threading two needles with different colors and using each color alternately.

Illustration 63: Fishbone stitching instructions found in *Embroidery Stitches* (pg. 162) by Mary Webb

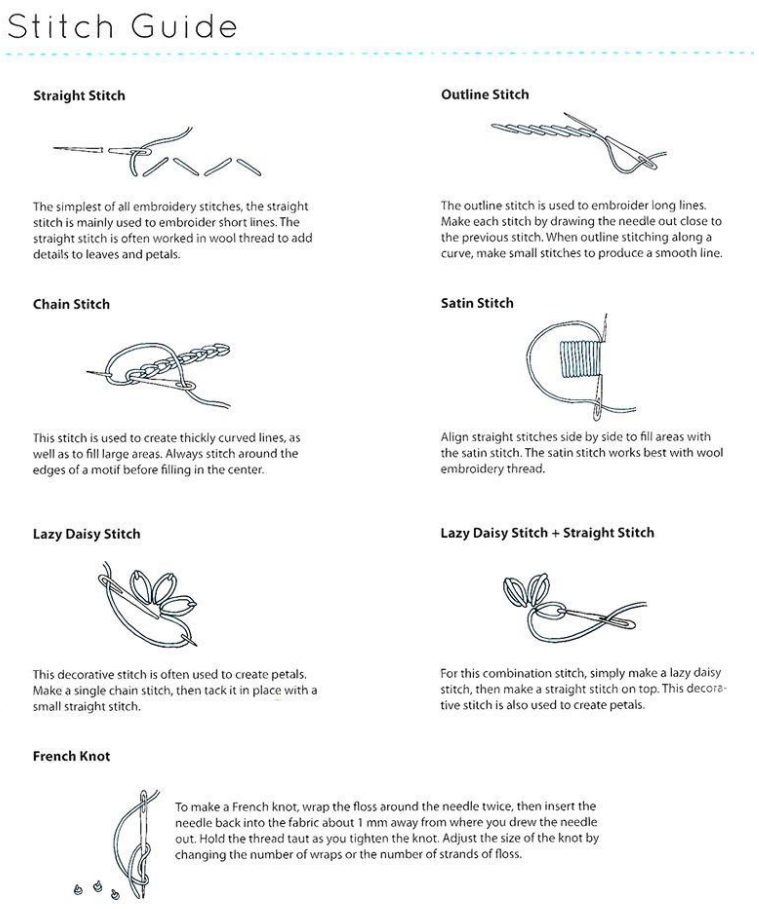

Illustration 64: Instructions found in the book *Simply Stitched* by Yumiko Higuchi. I used the lazy daisy stitch + straight stitch, French knot, satin, and outline stitches

Illustration 65: A fishbone stitch leaf in process at the top of a waistcoat front.

The aster stems are also done with a straight stitch with crewel wool color #245. Their matching leaves are longer lazy daisy stitches filled with straight stitches. Pale purple #603 petals are straight stitches which encircle their center disc flowers achieved with French knots using rust color #304.

There are 225 fully opened leaves on the waistcoat which took approximately 5-10 minutes each to stitch. Intially, I stitched a random few leaves with an outlined appearance (one can be seen in illustration 65), but in the end I decided to make everything consistent so I re-stitch these along with a handful of fishbone stitched leaves which needed to look prettier. There are 39 rust leaves which have yet to full open, and 13 aster blossoms with over 70 leaves total.

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Illustration 66: Me posing with the embroidery frame similarly to the woman in the Diderot illustration (see illustration 58)

I chose to embroider the pocket flaps after disassembling the frame, not only because I was eager to remove the large (yet beautiful) frame from my living room, but because I wanted to be sure the flap embroidery would coordinate well with the surrounding foliage. The small bumblebee's body was embroidered with a series of satin stitches in Appleton's jet black #933 and a deep gold #313. The veins in the wings are black cotton sewing thread and the outline was done in DMC white embroidery floss.

Illustration 67: The pocket flap and buttons resting on the waistcoat before being stitched in place.

Illustration 68: Nava wearing the embroidered waistcoat during a fitting.

Chapter 6: Garment Construction

One of my primary research goals was to learn about how clothing was constructed in the 18th century. I find the comparison of modern methods to historical methods fascinating because we can see how sewing evolved. I believe that some methods became more sophisticated as we learned more about fabric manipulation and fit, and others became less sophisticated because today we aim to produce more short-lived garments quickly and inexpensively.

As I mentioned earlier in my Project Parameters section on page 10, I had to accept the fact that this project could not be entirely historically accurate because my modern perspective influenced some of my decisions, and I am not at the same skill level as a trained tailor who lived 280 years ago. I will acknowledge in my writing when I deviated from historical methods and when I had to make an educated guess when something was not entirely clear.

The Shirt

I began sewing after my spring semester classes ended in 2019. Due to our schedules and my model's summer travel plans, I was unable to take his measurements at the beginning of the summer break. Fortunately, I had access to his 2017 measurements which were taken by the staff of The University of Texas for his dance show costumes. I knew his outdated dimensions wouldn't be entirely reliable but instead of waiting to take new measurements, I felt that it was safe to start sewing the shirt in the final fabric because 18th century shirts were quite long and oversized.

These shirts were made from either linen or cotton with fine stitching so they could withstand frequent laundering. They were sewn primarily by women at home, female milliners, and seamstresses. Members of elite society owned several and were able to change into a clean shirt multiple times a day as a part of their good hygiene routine as people bathed less frequently than we do today. For many men, these shirts were also worn as night clothes, which is why the hem reached between his mid-thigh to knee.

During this time, men's shirts consisted entirely of pattern pieces that were either squares or rectangles which were sewn together with ¼" seam allowances. Each piece of the shirt could be cut from cloth in a way that produced very few scraps which was important due to the cost of fabric during this time. More scraps are produced when cutting out a contemporary button-down shirt because there are fewer straight lines. The illustration below shows the diagram I used for my shirt patterns. It is from the book *Tidings from the 18th Century* by Beth Gilgun which was made available on a blog by Keith H. Burgess at woodsrunnersdiary.blogspot.com. Note that because all of the pattern pieces are touching, no fabric is wasted between each pattern piece.

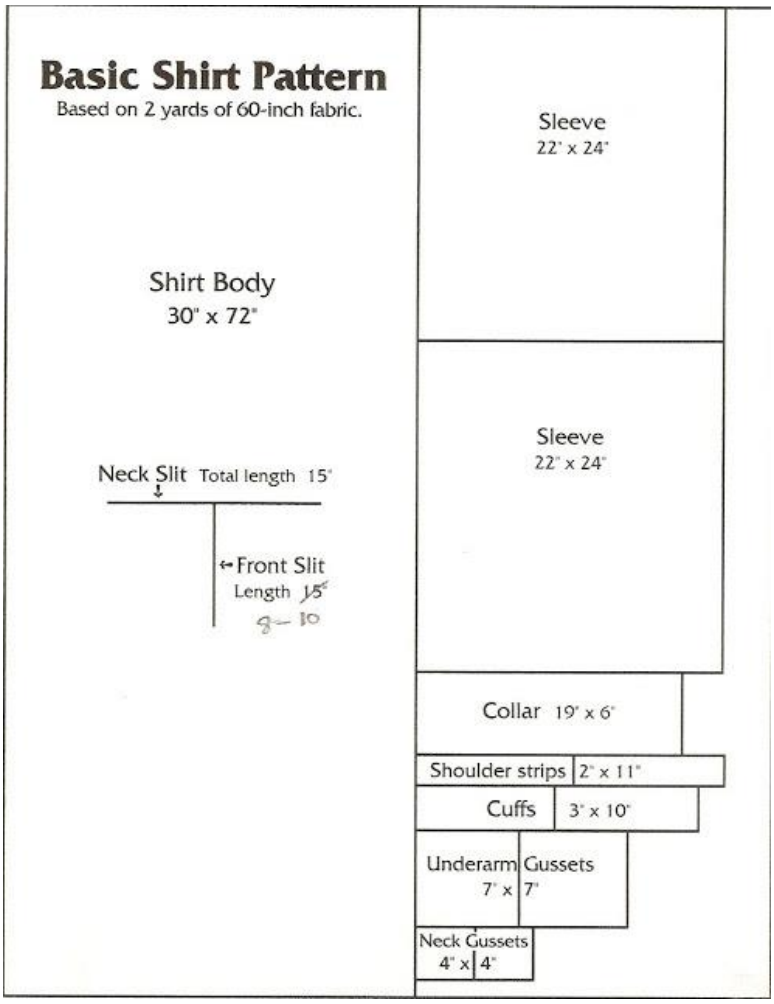

Illustration 69: The pattern layout of an 18th century shirt from the book *Tidings from the 18th Century* by Beth Gilgun, with penciled in suggestions by Burgess.

While visiting London, I purchased four metres of an organic, hand-woven, ivory, Indian cotton from The Cloth Shop on Portobello Road. I was drawn to this fabric because it is light, semi-sheer, and has occasional slubs and irregularities in the weave which notify the view that the fabric is hand-woven. I washed the fabric by hand in warm water, machine dried it, and pressed it. The thread I used on this shirt was a fine linen thread from Ireland that I inherited from a classmate in my bobbin lace class.

To achieve straight lines on each pattern piece, I would clip into the fabric and rip it for larger pieces, as this creates perfectly straight lines along the grain and cross-grain. On smaller shapes such as the collar, cuffs and gussets, I would pull a single thread in the fabric as needed and then cut along the gap I created in the weave, because clipping and ripping smaller measurements can be ineffective causing warping or fraying.

As per Gilgun's instructions, I began by cutting the "T" shaped neck opening. I finished the vertical line which follows the sternum using a narrow rolled hem with a hemming stitch. My approach to this stitch was rolling the edge of the fabric to conceal the raw edges and making small whip stitches as see in illustration 70. The bottom edge of the opening was secured by a row of buttonhole stitches.

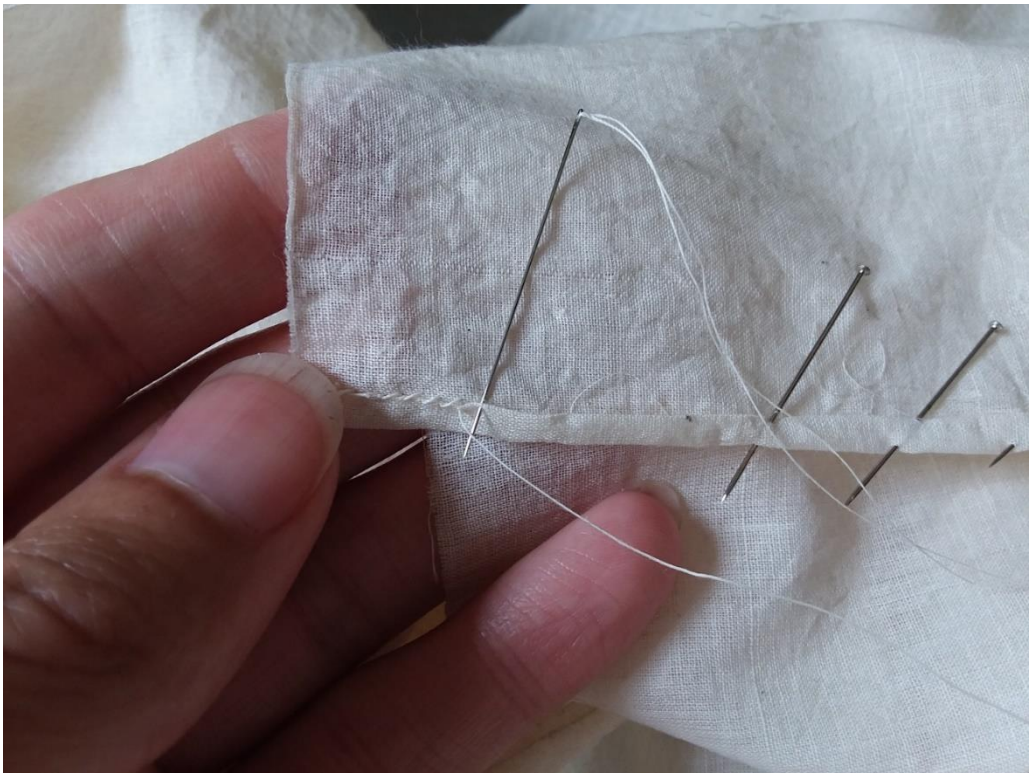

Illustration 70: My hemming stitches on the neckline of the shirt.

Next, I applied the square shaped gussets to the corners of the horizontal neck opening line. I folded under a quarter inch seam allowance on all edges of the square shaped gusset, and then drew a single thread along all four sides about ⅛: away from the folded edges. This was so that I could try my hand at drawn thread work, wherein the stitcher sews a straight line of backstitches directly along the gap in the fabric created from the missing strand of thread. On the wrong side of the shirt, I positioned a corner of the square where the slit ends, matching up the raw edges, so the shirt opening became splayed. I then back stitched in the weave's gap along two sides of the square. I folded the square in half along a diagonal line so that the square shape became a triangle, and sewed back stitches once more so that the raw edges of the slit and gussets were enclosed.

After repeating this with the second gusset on the other side, I applied the rectangular shoulder reinforcement strips. I prepared these pieces similarly to the gusset by pressing a ¼" seam allowance along the long sides and pulling and threads ⅛" away from the fold. The short sides of the rectangles were left raw because they would later be encased by the collar and sleeves caps.

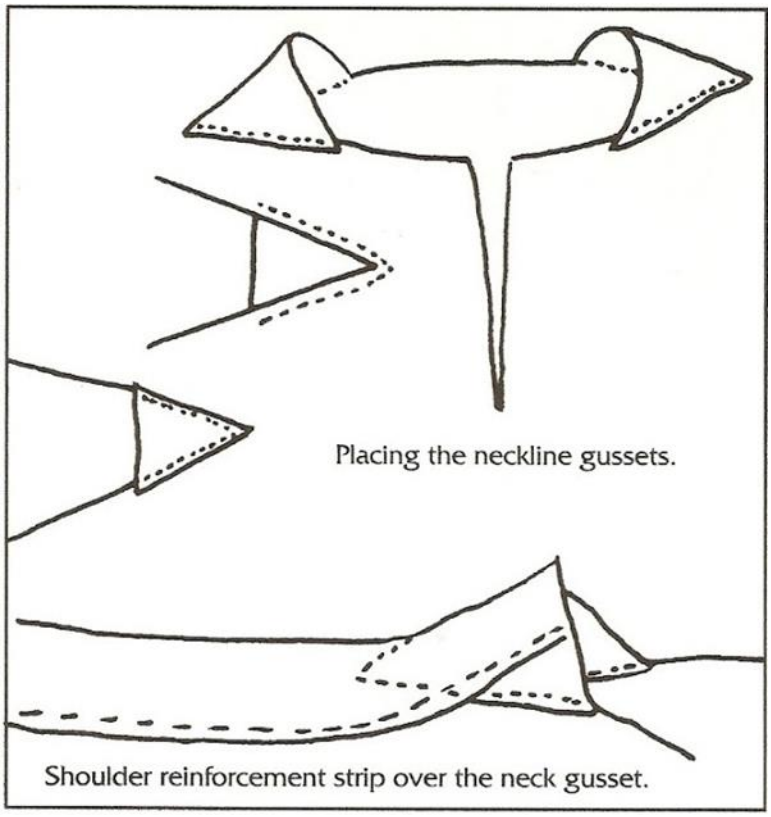

Illustration 71: The gusset and shoulder reinforcement sewing diagram from *Tidings from the 18th Century* by Beth Gilgun made available on Keith H. Burgess' blog A Woodrunner's Diary.

Illustration 72: Stitching the neck gusset to the neck opening. Here I sewed a row of back stitches right along a line created by pulling a strand of thread.

I ran two rows of gathering (or running) stitches ⅛" and ¼" away from the raw edges of the neckline on the front and back, but excluded the gussets. With a heat erasable pen, I marked dots ⅛" apart to help me make even stitches. I pulled the threads to tighten the gathers and basted on the collar piece with extra seam allowance so that I could double check the fit for my model Navaji Nava.

The sleeves were attached next. They have 4" of gathered fabric at the top of the shoulder, and the remaining inches on either side are flat. I learned how to stitch historical gathers by watching a YouTube tutorial by Burnley and Trowbridge. After the gathers have been evenly distributed, the peak of each gather is whip stitched to the shoulder on the

body piece on the exterior and again on the interior. I repeated this method when I was ready to finalize the collar and cuffs.

Illustration 73: The sleeve cap meeting the body of the shirt and shoulder reinforcement.

The remaining fabric on both sides of the gathers was stitched to the body using backstitches. I then attached the underarm gussets to the sleeves and body using backstitches, and closed the sleeves and body using back stitches, leaving the last 5” open for a hemming stitch. The end of one sleeve was gathered and temporarily based onto the cuff. My last task before a fitting was to stitch up the sides of the shirt body leaving the bottom 5” open here as well for a hemming stitch.

Illustration 74: Nava during the shirt fitting. I shortened the collar and sleeves.

After my fitting I made the collar shorter vertically and horizontally, and I shortened the sleeve about 2” to reduce fullness. To protect the interior raw edges of the side seams, gussets and sleeves, I felled the seams. This was achieved by folding both of the ¼” raw seam allowances in half, so the edge of the fabric meets the line of backstitching. The edge is folded a second time so that it rests flat on the fabric with the

raw edges hidden. I then used a hem stitch to secure the fold in place. According to the book *The American Duchess Guide to 18th Century Dressmaking*, I also had the option to do a running stitch to secure the fold.

Illustration 75: Finishing the felled seams with a hemming stitch by candlelight at dusk.

I had a difficult time deciding how to treat the raw edges at the cap of my sleeve because of the density of the ruffles. After some trial and error, I felt that applying a felled seam to this area would be too bulky. The shirt I studied at the Blythe House had pleats at the sleeve caps instead of gathers which laid nicely in a felled seam. I viewed a few historical examples online and discovered armhole reinforcements, which were interior rectangles that followed the sleeve caps for additional support. I thought this was an excellent solution as it would sandwich my raw edges and allow them to lay flat.

Illustration 76: A shirt from 1790-1820 on display at The Winterthur museum showing armhole supports. Photo taken by Susan Holloway Scott.

Another new skill I decided to attempt was creating thread buttons. I found a tutorial by Hannah Stoppel on her website fabricnfiction.com. I used one of my size 10.5 (6.50mm) double pointed knitting needles as a sizing guide. Wishing to match the deep ecru shade of my bobbin lace, I decided to make the buttons from the same lace making thread. I tied a loop around the needle, made a square knot, and wrapped the thread 40 times around the knitting needle (illustration 77, step 1). From the thread spool I unwound an additional arm's length and a half of thread and then cut it. I then carefully slipped the thread off the knitting needle, and encased the wrapped threads by making a series of buttonhole stitches thus forming a firm ring (illustration 77, step 2). With the remaining thread I made the

shank by inserting my threaded sewing needle directly across from where the buttonhole stitches had ended forming a bar along the diameter of the ring (step 3). I reinforced this bar with 5 more passes with the needle and then wrapped the five threads with the remainder of the cotton thread on my needle (step 4). I made a few knots at the top of the shank. I made a total of 5 buttons plus one spare. One is located at the collar and two per cuff. Traditional buttonholes were stitched in cotton thread along the collar and cuffs to accommodate the ⅜" thread buttons.

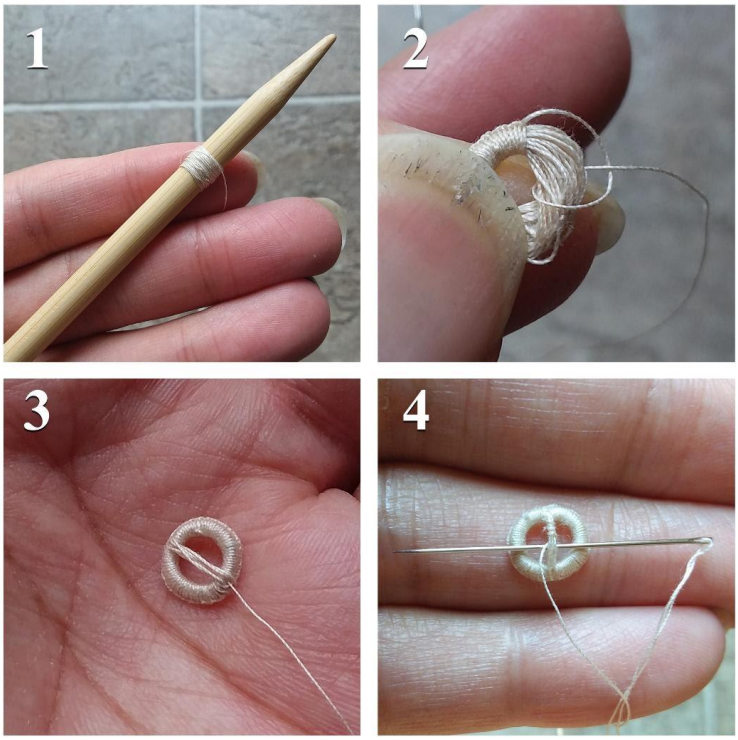

Illustration 77: Steps for creating thread buttons based on Hannah Stoppel's tutorial.

Illustration 78: Thread button and next to my buttonhole. At the collar.

For the bosom ruffle, I whip stitched my handmade bobbin lace (see chapter 4) to the selvedge edge of a 2”x40” strip of the hand-woven Indian cotton. I wish that time had permitted me to create sixty inches of bobbin lace for a fuller ruffle but after one hundred hours I had to stop at forty inches. That being said, in lieu of gathers I pleated the ruffle. I had a difficult time finding information on how these ruffles were attached to the shirts. After zooming in on photographs I found online of historical shirts, I made an educated guess and decided to back stitch the pleated ruffle onto 2 pieces of narrow long tape I made from the same cotton fabric. One tape was whip stitched to the interior of the left side of

the neck slit and the other tape on the interior of the right side. A bit of hem allowance was left to be turned under at the top and bottom

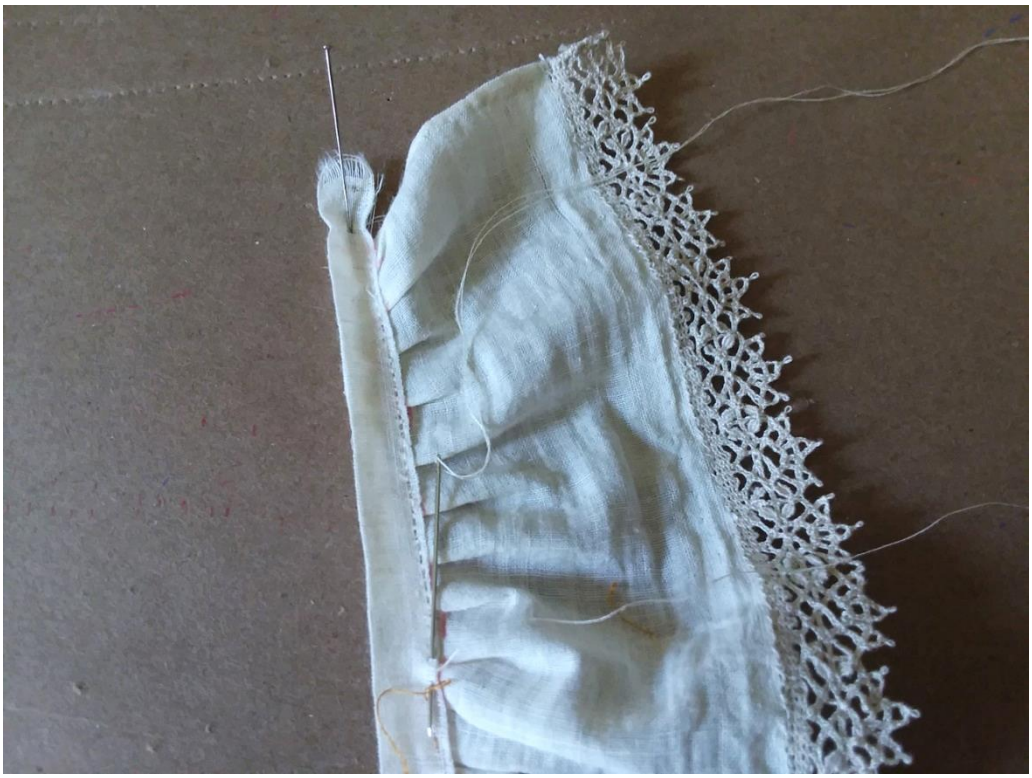

Illustration 79: Applying the pleated ruffle to a narrow piece of tape.

Illustration 80: The lace-trimmed ruffle stitched to the front slit.

Illustration 81: The Finished Shirt. Also pictured is a hat I shaped and stiffened, breeches borrowed from the UT costume stock, and stockings purchased from Jas. Townsend and Son Inc. Photo by Eric Galloway.

The Wool Garments

"The tailor's shop included a foreman, who measured the customers, cut the fabric and finished the work, and the journey men who sewed the seams and buttonholes" (North 11). It would take an apprentice 7 years of training before an apprentice became a journeyman. In the 18th century tailors made men's coats, breeches, waistcoats, cloaks, and robes. While dressmaking was the craft of the mantua makers, corset making and women's riding habits also fell under the category of tailoring. Oftentimes tailors would specialize in making one type of garment.

I purchased one metre of hand-woven Harris Tweed in their Oatmeal color and six metres in the color Moss Blend from www.harristweedisleofharris.co.uk.

Illustration 82: The Harris Tweed stamp on my moss green wool.

While enjoying an episode of the BBC television series *A Stitch in Time*, I learned from traditional tailor Ninya Mikhalia that seams were stitched in undyed linen threads and matching silk threads were used in visible areas such as buttonholes for topstitching. Today thread is more affordable and there is not a cost difference between thread colors, but I wanted to honor this practice. The thread for seams is a medium weight unbleached linen thread purchased online from Wm. Booth Draper, which is a historical tailoring supply company. I also bought cotton thread to match the wools from Joann Fabrics and Crafts. For the buttonholes I decided on cotton embroidery floss. Historically ad presently, silk buttonhole twist would be the standard choice. Before sewing, my threads were passed through a cake of beeswax which was melted into the fibers with a hot iron. This helps the thread glide through the fabrics and prevents it from breaking.

I shrunk the wool fabrics using what my advisor Professor Jim Glavan calls the London Method. For this technique, large sheets of muslin are rinsed and spun in a washing machine. The damp muslin is laid flat on a table protected by plastic sheets and the dry wool fabric is carefully placed on top of the muslin. The damp muslin is folded over the wool (or a second sheet of muslin can be used) so that the entirety of the wool is sandwiched between layers of damp muslin. These layered fabrics are neatly folded and ideally, no part of the wool fabric will be folded against wool so that every inch is able to absorb moisture. The bundle of fabric is placed inside of a plastic bag to "shrink" for approximately 24 hours. After this time has passed, the wool is removed from the muslin wrapping and is pressed with a dry iron so that the steam shrinks the fibers as all of the moisture evaporates. As it is pressed, it is rolled onto a long tube to prevent wrinkles.

For my coat, waistcoat, and breeches patterns, I turned to Norah Waugh's book *The Cut of Men's Clothes 1600-1900*. I selected a diagram of a coat and breeches from the 1730s housed at the London Museum, and a waistcoat from The Victoria and Albert circa

1735-1740. Waugh also has a helpful diagram of the interior structure of coats in the 18th century as well as written descriptions of how interlinings evolved during this time.

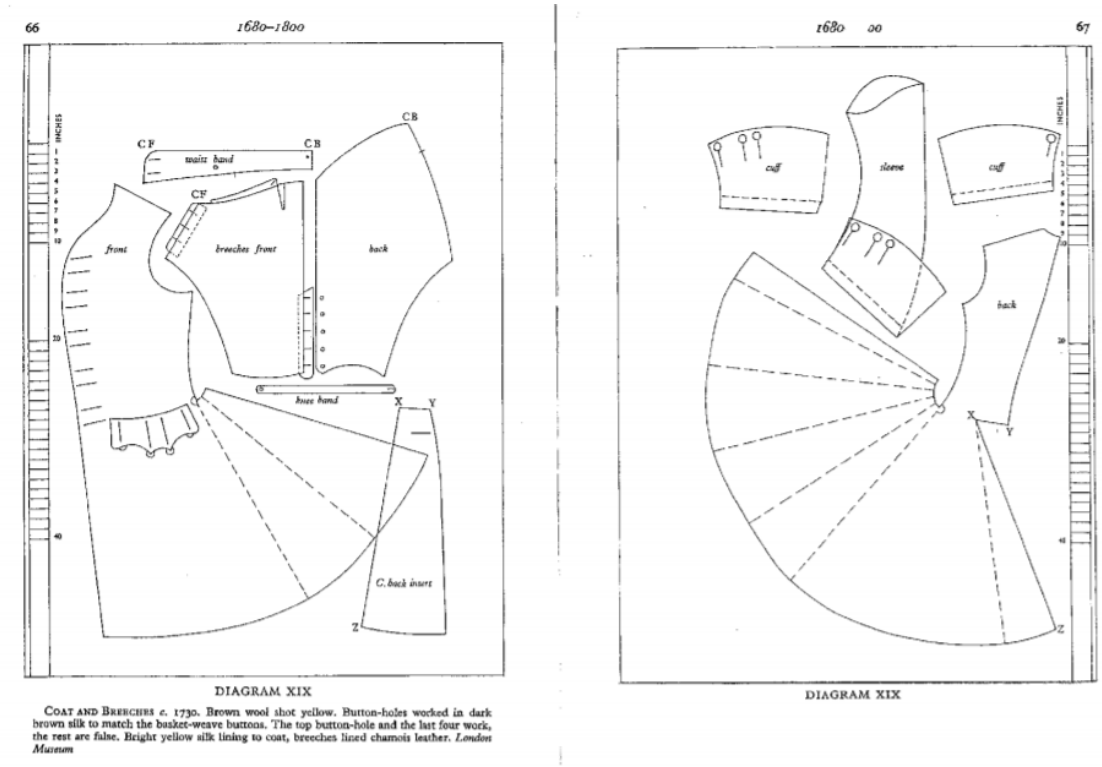

Illustration 83: 1730s coat and breeches pattern diagrams from *The Cut of Men's Clothes 1600-1900* by Norah Waugh.

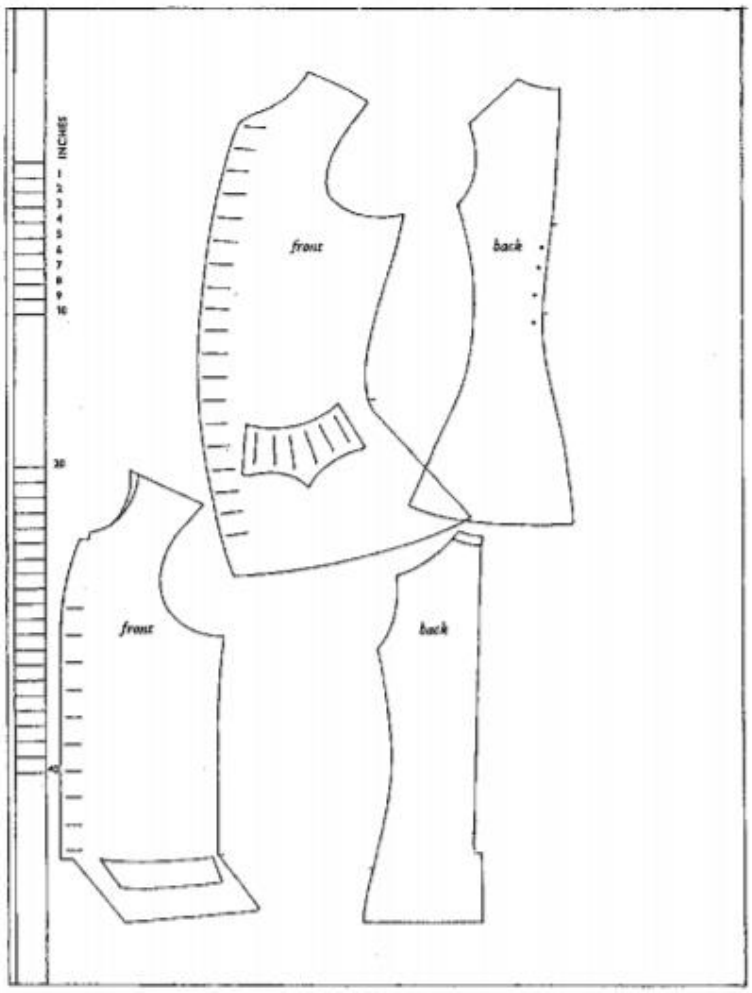

DIAGRAM XXVI

WAISTCOAT *c.* 1735–40. Stiff figured cream silk with an all-over small design in fawns and claret. The back is also of the same silk and stitched at the top and then laces. No trimming. Worn with coat similar to Diagram XX. *Victoria and Albert Museum*

DIAGRAM XXVII

WAISTCOAT *c.* 1770. Pale cream silk, lightly embroidered centre fronts and pockets. The back is of holland. *Private Collection*

Illustration 84: I used the upper waistcoat draft in diagram XXVI from *The Cut of Men's Clothes 1600-1900* by Norah Waugh. I decided to shorten the back pieces to just below the waist.

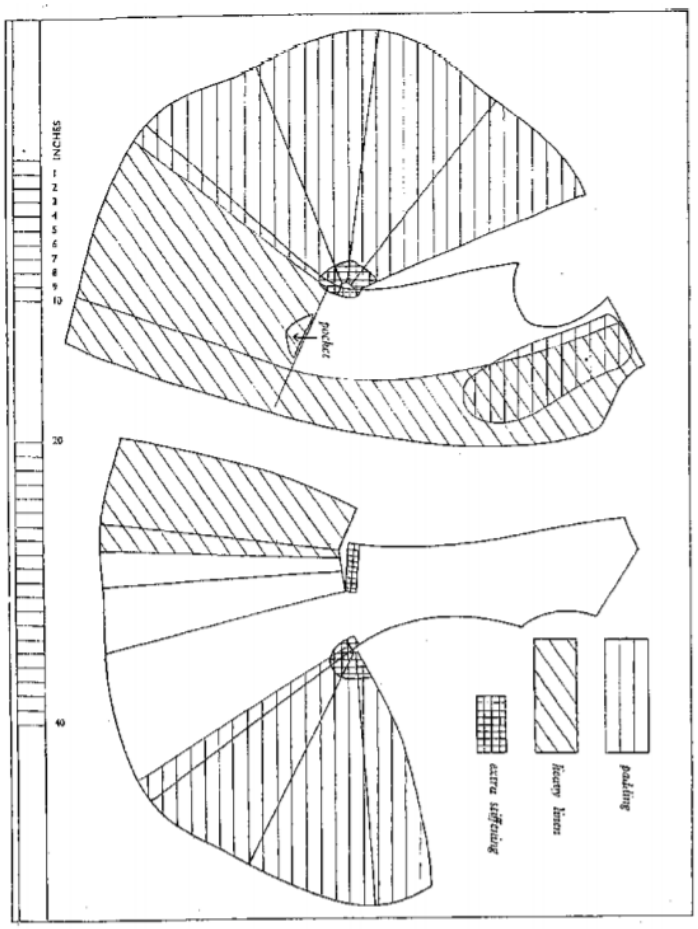

DIAGRAM XXXIV

CONSTRUCTION OF COAT. In the second half of the century the skirt and pleat interlinings are omitted but the centre front, centre back skirt and extra top pleat stiffening retained.

Illustration 85: An interlinings diagram from *The Cut of Men's Clothes 1600-1900* by Norah Waugh.

I purchased 100% linen French collar canvas for my skirt interlinings from B. Black and Sons to act as the "heavy linen" areas represented on the diagram above. It was also used on the front edge of my waistcoat. A few months later I learned that Hobby Lobby carries 100% cotton buckram at a much lower price which was also used in these areas. I used cotton batting I already owned for my chest padding, and I purchased a cotton linen

blend fabric from Hobby Lobby for flatlining, and cotton flannel from Joann Fabrics to act as my skirt padding.

To be consistent with my hand sewing goals, I decided to scale up the patterns by hand using a graphite pencil on brown craft paper instead of enlarging them digitally and printing them out. Each of Waugh's diagrams includes an inch scale for reference and I relied upon this to augment each pattern piece to the size of the actual historical garments that Waugh measured to make the diagrams for her book. Although it was time consuming (just like hand sewing) It was a great exercise in using my drawing and mathematical skills. I then modified each enlarged pattern piece to fit the measurements of my model. I also modified the curvature of coat front and waistcoat front so they had a complimentary line.

Because I do not have years of practice with men's tailoring and modern fabrics are more affordable than they were previously, I decided it was necessary to create mockup garments from washed and pressed drill fabric purchased from Joann Fabrics. I did not have the heart to cheat on this step by using a sewing machine, so all mockups were hand basted with running stitches. After placing the mockups on a dress form, I thought it was necessary to manipulate the fabric and minimize a few draglines and make other adjustments with draping techniques.

The fit of a gentleman's coat, waistcoat, and breeches during the 18th century can appear slightly strange to modern eyes. As time has passed, we have learned more about manipulating fabric, and our taste in silhouette has changed. Two and half centuries ago, soft shoulders and pigeon shaped torsos were considered attractive. The legs of breeches were splayed, and fabric was bunchy at the crotch for ease with horseback riding. Additionally, modern day vests and jackets use darts to provide shaping and control the hang of fabric, but there are no darts on the coat and waistcoat patterns I chose, therefore I had to accept the presence of historically accurate draglines.

The Waistcoat

While fitting the shirt I proceeded with the waistcoat mockup fitting. Knowing that I had to spend several hours on embroidery which might have been affected by alterations, I wanted to be extra certain that the waistcoat would fit exceedingly well. This caution inspired me to have two waistcoat mockup fittings. My advisor Jim Glavan and I agreed that it would be advantageous to have my coat fitting after the wool waistcoat was nearly finished. After my paper patterns reflected the appropriate alterations, I traced them onto the wrong side of the wool, thread marked my stitching lines so I could see them on the right side of the fabric, and mounted the fabric in my embroidery frame (see Chapter 5: Embroidering the Waistcoat starting on page 84).

After the embroidery was completed, I released the wool from the frame and cut out the waistcoat fronts with generous seam allowances. Following the information presented in my readings, I tailor basted in strips of linen collar canvas along the interior front edges of both pieces. I made these 5" wide following Waugh's coat diagram. Although Waugh's book is extremely helpful, it is not as detailed as *Costume Close-Up Clothing Construction and Pattern 1750-1790,* and she presents very little information on waistcoat construction. I acquired the *Costume Close-Up* book later in my construction process and realized that my waistcoat interior supports should have been 3" wide.

I made my waistcoat back exterior pieces and lining from a warm dark brown linen and cotton blend manufactured by Robert Kaufman sold by fabric.com. I joined the pieces together with back stitches. The eyelet holes were created using an awl and whip stitched open using cotton embroidery floss (my vegetarian substitute for silk threads).

Illustration 86: The left or right piece of my waistcoat back. The front piece is back stitched to the lining using an undyed linen thread.

Illustration 87: Three stitched eyelets on the waistcoat back so that it may be laced up.

I basted the front and back together for my fitting with the coat mock up. After I saw that everything fit well, I was ready to proceed with finalizing the waistcoat and beginning the coat. However, a few weeks after this fitting, I decided to alter the garments to fit myself because I no longer was able to work with my model due to social distancing during the coronavirus pandemic. On the waistcoat, I let out the sides for a total of 1 ½" and the armscyes were raised about ½". I replaced my basting with back stitches, and then set in the front lining. My historical research showed me that the lining's side seam and shoulder allowances were sometimes folded under and a running stitch (or sometimes a prick stitch) close to the folded edge of the lining went through all the layers of fabric. This

stitching was faintly visible on the outside of garments.

Illustration 88: A sleeve on the taffeta coat I saw at the Blythe House, Museum number #T.727-1913. The sleeve seam shows running or prick stitches which may attach the lining to the fashion fabric.

Illustration 89: Here I have pinned the lining at the side seams and shoulder to be sewn down to the wool with a running stitch.

My next endeavor was to sew buttonholes onto the waistcoat. I had placed markings for 12, which were 2” apart from each other and a ½” away from the front edge. The upper two and lower four buttonholes are decorative. This is because the top few buttons were

left undone so that a bosom ruffle can be displayed. Also, the pattern I selected begins to curve away from the center front line below the waistline so here the fabric does not overlap. Another stylish impracticality about these buttonholes is their length. It was fashionable to have buttonholes that were twice the length of the button or more, so a portion of the functioning buttonholes is not cut open.

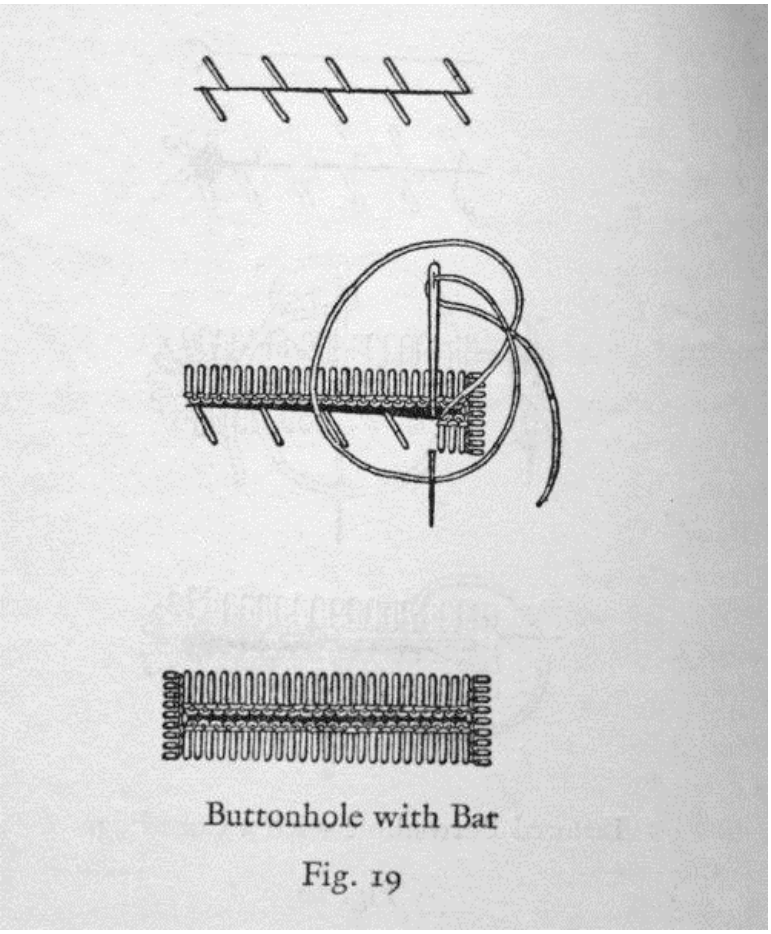

Illustration 90: I have often referred to this diagram to hand sew buttonholes. I do not know the title of the book it appears in, but I found it through Pinterest.com.

On the other hand, 18th century tailors did something that I found practical and fascinating with their working buttonholes. Today a buttonhole typically is stitched all the way through the fashion fabric and lining, but during this time, the buttonhole could be stitched only on the outer fashion fabric and the lining would be set in later with its own separate openings. This meant that a lining could be easily replaced after wear and tear.

I followed a familiar diagram to create my stitches. First, I cut the buttonhole open with a chisel and whip stitched the raw edges to prevent fraying as I work. Then I laid in a thick linen thread for a cord parallel to and just slightly above and below the opening. Working right to left, the upper raw edges of the buttonholes were encased with a series of purl knot buttonhole stitches (as seen in illustration 90 above). When I reached the end of the slash, I stitched 3 bar tacks which are encased with blanket stitches, and then I resumed the purl knot buttonhole stitches along the bottom raw edge until I reached the end of the buttonhole where I repeated the bar tacks and blanket stitches. I hid a knot on the backside and ran ½" of thread beneath my purl stitches and cut off the excess thread. I find sewing buttonholes deeply satisfying. They take a great deal of patience and practice before they can be made exquisitely and quickly. I certainly need more practice. For me, each waistcoat button hole took approximately 30-45 minutes to complete.

Illustration 91: The partial opening on one of my six working waistcoat buttonholes.

Illustration 92: A decorative buttonhole that was not chiseled open.

I found a helpful video tutorial made by Stuart Lilie, the historical tailor at Fort Ticonderoga. He demonstrated an exciting lining method wherein the stitcher cuts a series of rectangles to stitch between the working buttonholes. Mine were approximately 2 ½" by 2 ½". I folded the raw edges under on the top and bottom of each square, whip stitched them down to the edge of the buttonhole openings, and turned under the edges on the side which meets the front edge of the waistcoat. The larger lining piece which covers the remainder of the left waistcoat front piece is cut to reveal the buttonhole square pieces. It is then slip stitched to the squares.

Illustration 93: My attempt at lining the working buttonholes separately from the rest of the left side of the waistcoat. Please note that the embroidered wool in this image is coming from the right-side panel of the waistcoat.

The hem, front and side edges, and pocket flaps were finished with a stitch that Denis Diderot called *le point à rabattre sous la main* in his *Encyclopédie, ou Dictionnaire Raisonné des Sciences, des Arts et des Métiers*, written between 1713 and 1784. While its 18th century English name is unknown, it was later given the name underhand hem stitch or referred to a prick stitching. This stitch both secures the lining to the fabric edge and creates a top stitch for a crisp edge. On the interior it resembles a whip stitch and on the exterior it looks like a running stitch. The armscyes were finished by cutting the seam allowance down to ⅜", turning the raw edges toward each other and slip stitching them closed.

Illustration 94: My hands practicing the underhand hem stitch on the front edge of my waistcoat. The stitch both attaches the lining and creates edge stitching.

Illustration 95: An example of the underhand hem stitch on the front edge of a coat I saw during my Blythe House study room appointment. Museum # T.727-1913.

Illustration 96: A coat pocket on the 1790s blue silk court coat I studied during my Blythe House study room appointment. Museum number 295-1898.

During my study room appointment at the Blythe House, I was able to view pockets on the two coats I requested to study. I noticed that the opening was a narrow oval shape. The openings of the pocket bags were sewn along the diameter of the oval with slip stitches all around, and close whip stitches or buttonhole stitches in both corners, so that the raw edges of the pocket bag and coat fabric are encased. About one inch above the opening the pocket flaps were applied using whip stitches. These vary from the contemporary coat pockets I have seen because the opening is somewhat of a gaping hole when compared to the narrow slits on today's slant or welt pockets.

I referred to *Costume Close-Up Clothing Construction and Pattern 1750*-1790 as a guide for my pocket construction. I made my bags from a cotton/linen blend fabric made by Robert Kaufman Fabrics. A 2" strip of wool matching the waistcoat was appliquéd at

the top of the lower pocket piece so that the opening would match the waistcoat. I thread marked the ovular openings on the waistcoat and bag, and cut them open down the middle. Then I basted the edges down to keep them crisp and controlled. The upper and lower pieces of the pocket bags were joined using two rows of small backstitches.

Illustration 97: My assembled pocket bag with appliquéd wool peeking out of the opening.

On the waistcoat pocket opening, I whip stitched the wool's raw edges to prevent fraying. I aligned the opening edges of the wool and pocket bag and slip stitched them together. I used buttonhole stitches on both corners for reinforcement and to prevent fraying where the seam allowance is nearly non-existent. I made a running back stitch all around the opening to prevent the bag from flipping inside out, and there are small whip

stitches along the upper half of the oval going through all wool layers so the top of the pocket bag is closed off. I then stitched my pocket flap down with whip stitches, which gives the flap a full range of motion.

Illustration 98: A finished pocket opening beneath a pocket flap.

I had purchased wooden buttons to cover in wool. After I put one together, I decided that It would be a lovely touch on a future project because my thesis to-do list was already quite long. Instead I purchased beautiful antique gold buttons from Dill World of Buttons for all of the wool garments.

Illustration 99: A sample covered button I made before realizing that I did not have time to make these. I almost made the waistcoat from this chartreuse wool.

Illustration 100: The finished waistcoat. The hat was shaped by me, and the breeches and shoes are borrowed from UT costume stock. The stockings are from Jas. Townsend and Son Inc. Photo by Eric Galloway.

The Coat

Before my waistcoat was completely finished, I used it during my coat mockup fitting to assure the coat would fit over it well. There was nothing too far off with my drill coat mockup or wool waistcoat. Necklines changed on both, the side seams were let out on the waistcoat, and taken in on the coat and hems were adjusted. The back seam need a slight pivoting and the sleeves cap and gusset grew. The hem of the sleeve became shorter.

Illustration 101: Nava smiling because the two-hour fitting was ending.

After transferring my alterations to my paper patterns, I was ready to work with the Harris Tweed wool. The patterns were traced onto the wool using an ecru color pencil. The 18th century tailor would have folded the fabric in half and cut out two pattern pieces at once, but my education has discouraged this behavior to assure that each piece is properly cut from the fabric on grain. Additionally, these pieces would have been cut out with ¼”

seam allowances due to the cost of cloth in the 1700s. I wanted my garments to be alterable, so I left 1 or 2" seam allowances wherever possible. Luckily my fabrics were extremely wide so all of my patterns fit on the cloth. There are many examples of clothing with panels that had to be pieced together because the width of the cloth was narrower than the pattern pieces.

Another modern method I used was thread-marking my lines because textured wools do not retain pencil or chalk markings for very long, and I would be assembling these garments slower than a professional tailor. I studied Waugh's diagram for my coat's interlinings. My professor and academic advisor Jim Glavan suggested that I flatline (or back) my pattern pieces with a medium weight hymo fabric to help preserve the shape of the coat even though this did not occur historically on 18th century coats. I was unable to find a hymo made of 100% natural fibers in the correct weight so I decided to locally purchase a cotton and linen Robert Kaufman fabric from Hobby Lobby.

After flatlining, I created horseshoe shapes from the French collar canvas (as seen in illustration 102) to support the tops of the pleated skirts. There are also rectangular strips of French collar canvas at the back above the flaps. Waugh's writing does not precisely explain how these supports were tacked in place, therefore I decided to employ light pad stitches. Professor Glavan also recommended that I use stay tape on the inside of each fold line of the pleats to maintain a crisp edge.

Illustration 102: Pieces of French collar canvas were stitched at the top of the pleats for reinforcement as demonstrated in in Waugh's diagram in illustration 84.

Illustration 103: Interlinings inside of the right front coat panel.

Another practice I learned about 18th century tailoring is how each panel of coats or received their lining before the garment was seamed together. Oftentimes in modern sewing we have drop-in linings, which means the lining pieces are seamed together and then inserted into the interior of assembled fashion fabric pieces. After I tailor basted my lining on my panels, I basted the upper half of the coat seams together to see if it needed

alterations to fit my body. I let out the center back a total of 1” at the waist and tapered to zero at the neck, and the armscyes became shallower.

The distribution of the coat's weight was encouraging it to slide off my shoulders. After some trouble-shooting I requested a video chat with Glavan to see if he had any suggestions. He recommended that I add ½” on the shoulder seam near the neck on the front panels only, and taper the let out to zero at the armscye. I was amazed with the results and very grateful for video chat.

The panels of the coat became exceptionally heavy. I tested the strength of the wool by pulling on a scrap. I discovered that the wool is loosely woven and the fibers are delicate as the scrap easily split in twain. I was afraid the weight of the skirts would cause the torso to lengthen or even split over time. Most of the weight laid in the pleated section of the skirts. With this in mind, I stitched ¼” stay tape to the side and back seams. I also decided to remove the skirt’s flatlining from all of the sections that were supported with collar canvas leaving it just between the pleats and flaps on the back. It also remains in the coat above the waist. I decided to not replace the tapes following the pleats because the wool was is so spongy, I felt like it did not help achieve a crisp line. It also added too much bulk at the top of the pleats where all of the folds are tacked together near the waist. Previously I lined a skirt with white flannel as my modern substitute for the padding represented in Waugh’s diagram. I was not satisfied with this material because the wool was already quite thick. It also seemed to add bulk and make the pleats less crisp.

Next, I turned the raw edges of lining and wool at the top of the pleats toward each other and slip stitched them together. I tacked them closed with heavy linen thread and pressed the pleats in place. After replacing my basting with backstitching at the sides and back seams with the unbleached medium weight linen thread purchased from Wm. Booth Draper, I folded under the seam allowance of the lining at the side and back seams so that

it met the side seams of the wool fashion fabric. I then did a running stitch through all layers in cotton thread matching the moss green wool (see illustration 105). I left the coat on a dress form for two days allowing the pull of gravity to act upon the length of the fabric.

Illustration 104: The top of the pleats where the lining and wool raw edges were slip stitched closed.

Illustration 105: The lining stitched through all layers at the center back seam.

The angles of my coat's decorative buttonholes were challenging. I had the lines thread marked, but they no longer looked attractive off of the paper pattern. I even redrew them in my mockup fitting, but was still dissatisfied when I saw them on the wool. I heard that they should be parallel to the waist, but some of the lines closer to the top needed to be adjusted. Anticipating this, and possible alterations, I did not stitch these decorative buttonholes or my pockets when the wool was still flat. I held up a gridded ruler to Waugh's draft and saw that the buttonhole lines were not all perfectly parallel to each other. The lower buttonholes angle slightly downward toward the center front. I ended up drawing on the fabric with chalk while the coat was on the form. I would walk away, and look at the lines several minutes later, take the coat of the form and try it on, and repeat this process until I was pleased with how the the lines appeared. I then stitched the decorative

buttonholes in a dark warm brown embroidery floss matching the lining. I contemplated using taupe, olive, gold, and rust. I also tried a few decorative stitches which would mimic a trim in lieu of the buttonhole stitch, but as usual, I selected the most subtle options. Each buttonhole is 2 ¼" long and took me about 1 hour each to stitch while watching episodes of *Frasier*.

Illustration 106: A completed decorative buttonhole stitched onto the coat.

Another step that occurred a bit late in my process was the pad stitching of the cotton batting for the hollow chest area. After this, I set the coat on the form inside out to arrange the lining at the shoulder. I pulled tightly on the back lining and pinned it to the wool seam allowance and overlapped the front seam allowance making sure there would not be excess material once the coat returned to being right side out. This process took a

few tries until I was pleased with the smoothness. At the shoulders. I did a running stitch attaching the front lining to the wool seam allowance using the medium weight linen thread. The raw edges were then hidden by the overlapping back lining pieces which were secured through all layers using a finer running stitch in the cotton thread that matched the moss green wool. I then re-thread marked the armscye stitching line through all layers.

Illustration 107: Cotton batting briskly pad stitched to the interior of the coat front.

Illustration 108: Closing the lining at the shoulder seam.

Because the coat was so cumbersome, I felt more comfortable marking the hem before it received the sleeves. I took my time with this step as I did not have assistance during the coronavirus quarantine. I began marking a height just below my knee with a chalk puffer borrowed from The University of Texas costume shop. I placed the jacket flat onto a table to examine the results. I double checked the chalk puffer markings with a tape measure, smoothed out the lines with chalk, and checked my work on the dress form. When I became more confident, I cut down the hem allowance to two inches to reduce bulk and have a cleaner representation of the possible end results. Next, I put the coat on and recorded a few videos of myself spinning slowly in front of my laptop. Additional adjustments were made. There was probably a total of 15 minutes of twirling footage. Once I thought the hem was level and attractive, I cut the hem allowance down to 1" and stitched

the lining to the wool with the underhand hem stitch leaving the lining about ¼” shorter than the wool.

Illustration 109: Redrawing a hemline in chalk over my second thread marking line.

While making haste to finish my thesis sewing, I may have made a sleeve construction error. A few days after I finished, I realized that I assembled my sleeves the very same way I learned in tailoring class. I treated the wool and lining as separate units dropping in the sleeve lining instead of joining the upper lining with the upper sleeve wool and the lower sleeve lining with the lower sleeve wool before seaming the pieces together. I did a running stitch joining the seam allowances of the lining and wool so that the lining would stay put.

Illustration 110: My modern sleeve construction method with the drop in sleeve lining.

At the Blythe House I believe that I may have seen examples of two different sleeve construction techniques. The mauve taffeta coat shows pick stitches on the sleeve seams (shown in illustration 87) whereas the earlier brown fustian coat shows no pick stitching at this location. Additionally, my interior photo of the sleeve lining makes it look as though the sleeve lining was dropped in.

Illustration 111: The armscye interior of the brown fustian coat I viewed in London.

The angle of the decorative stitches on the cuffs were possibly more challenging to place than they were on the front of the coat. I pinned the sleeves to the coat and then pinned the cuffs to the sleeves to determine the most flattering angles. Referring to the cuff on the captain jack sparrow simplicity pattern (#4923) I had in my stash proved to be quite helpful. After these eight buttonholes were stitched, I stiffened the cuffs with flatlining and French collar canvas. As I approached the end of my sewing, I wanted the cuffs to be an opportunity for me to attempt one more historical stitch.

I had read about the English stitch seam first and later realized that I stood before an example of it at the V&A. This method has the stitcher save time by seaming together the lining and exterior fabric all at once with one stitch. Waugh says the center back seams of coats were sewn with a backstitch, but I noticed that the 1790s blue silk coat held at the Blythe House had the English stitch on the back seam. According to The American Duchess book, this was commonly used on the back seam of women's mantuas.

The raw edges of the lining and exterior fabrics' seam allowances are turned in toward each other creating a sandwich of four fabrics stacked together. The right sides are facing each other on the inside of the stack and the linings are on the outside. To me this stitch resembles the baseball stitch, but with more layers of fabric.

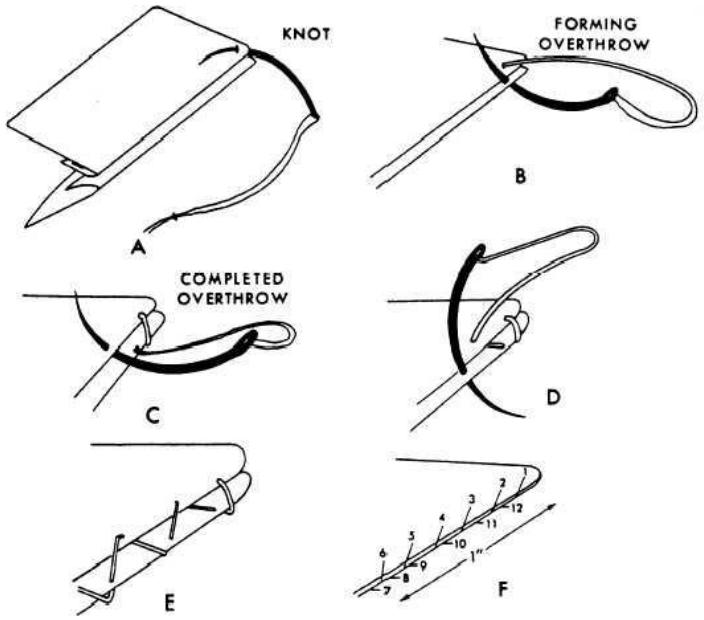

Illustration 112: Baseball stitch diagram from navyaviation.tpub.com

Illustration 113: Practicing the English stitch on a sleeve cuff.

I hid my starting knot between the lining and wool with the needle exiting the lining on the right side of the stack. I then stitched through all layers of fabric except the right most lining layer, thus forming a stitch on the right lining that resembles a whip stitch. Put differently, if the right most lining layer were considered the first layer, I would then pass my needle through layers two, three, four. The mirror image of these steps is repeated coming out on the left side and again on the right again, so on and so forth as the stitch moves down the fabric diagonally.

After doing this on the inner seam of the cuffs, I used the underhand hemming stitch on top of the cuffs, and also on the backs so they would remain open.

Illustration 114: A cuff with the finished English stitch seam before the open back and top are underhand hem stitched.

Illustration 115: The cuff pinned to the sleeve before they are slip stitched together.

The wool hem of the sleeve was slip stitched to meet the lining of the cuff, and the wool at the bottom of the cuff rolls 1” to the inside of the sleeve and is stitched to the lining, which is one inch shorter than the hem of wool. The wool sleeve fabric was back stitched through all layers of the armscye, and the sleeve lining at the armscye was attached to the body lining using whip stitches mimicking what I saw in London and read about in *Costume Close-Up Clothing Construction and Pattern 1750-1790*..

Buttons were sewn to correspond with the buttonholes on the front and cuffs. They were also added to conceal the gap above the side pleats, at the top of the flaps on the back, and near the edge of the front panels’ skirt pleats near the hem and halfway between the hem and top of the pleats. Here these buttons are sewn through the layers of the front and back skirt pleats closing the side openings with two tacks (see illustration 120) .

The Future Breeches Project

During a fitting, my misunderstanding of the breeches draft revealed itself with a very shallow crotch depth. Fortunately, in this setting I was able to face this embarrassing lesson with levity and laughter. This was corrected with scraps of drill fabric added to the top of the front leg pieces. Following the grain of the breeches, the scraps were safety pinned in place thus allowing me to determine how many inches I should add to the crotch depth of my front leg pattern piece. After I corrected the patterns and transferred them onto the moss green wool, I basted the breeches together and was fairly pleased with the fit. However, sometime in early April, I realized that it was not feasible to make these breeches with all of their unique features, linings, facings, and pockets. The cut pieces are currently stored away for future construction. With each sewing project I take on, I learn more about how much time it takes to complete projects.

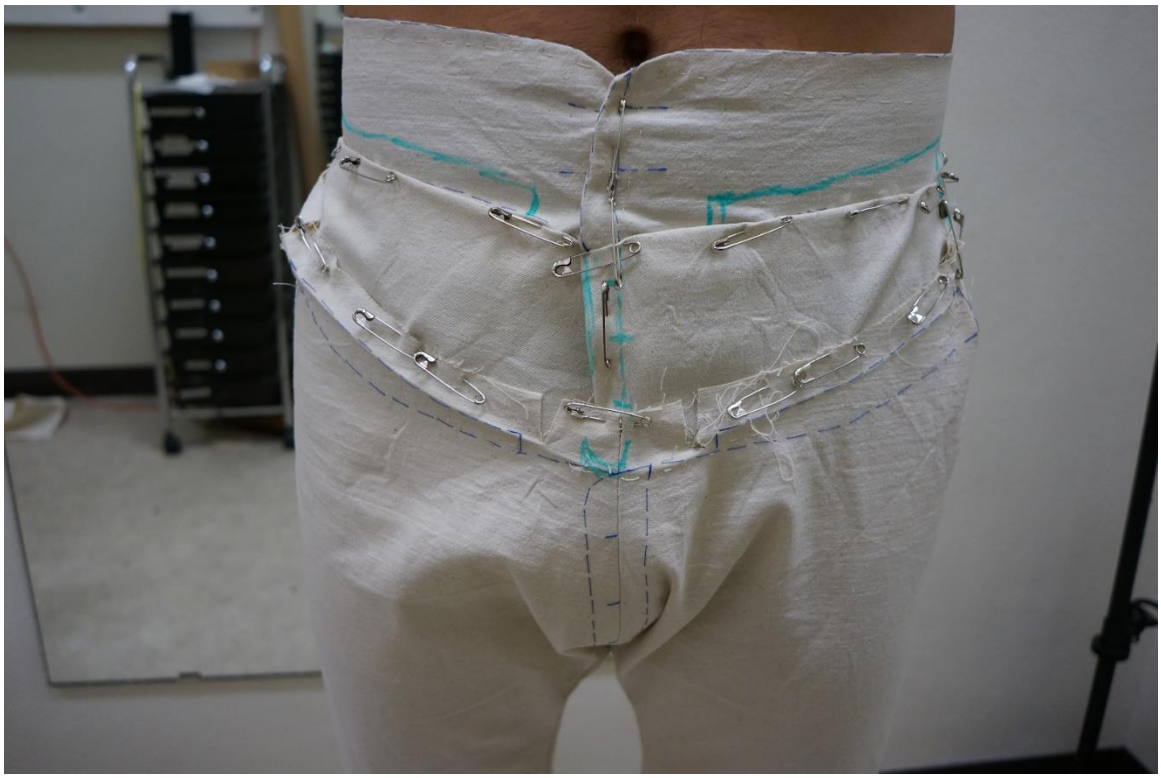

Illustration 116: A fitting photo showing the crotch depth mistake that occurred on the front of my draft.

Illustration 117: The back view of the breeches mock up. The seat was full in the 18th century to allow for horseback riding.

Illustration 118: The basted wool breaches to be completed in the future.

Illustration 119: My completed coat, waistcoat, embroidery, shirt, and lace.

Illustration 120: The back right side of the coat.

Illustration 121: Me wearing the coat, waistcoat, and shirt. The hat was shaped by me, and the breeches and shoes are borrowed from UT costume stock. The stockings are from Jas. Townsend and Son Inc. Photo by Eric Galloway.

Chapter 7: Why Make Something by Hand?

Because machines can create objects quickly and inexpensively, why should people continue to practice obsolete crafts like bobbin lacemaking or hand embroidery? Beyond the joy I personally experience when making, I am beginning to explore the importance of hand sewing in the modern world and why we should preserve this and other traditional skills. I started by examining the theatrical value of hand sewing, the cognitive benefits of making, and the sentimental value of a handmade object.

Hand Sewing for Film Costumes

In addition to my mother sewing at home when I was young, I believe it was costume in film that sparked my interest in costume technology. Costumes were more exciting to me than modern fashion design because stories can take place anywhere or anytime allowing the costume design to be fantastical or historical. My gateway film was *My Fair Lady* made in 1964. I was captivated by the Edwardian costumes designed by Cecil Beaton. From there it was *Interview with the Vampire* (1994), *Titanic* (1997), *Amadeus* (1984), *Perfume: The Story of a Murderer* (2006) and an ever-expanding list of other period films. I saw beauty in clothes from other time periods and thought modern fashion had become mundane. Film was my introduction to fashion history. As time passed, I began doing casual research learning about the chronology of silhouettes and the cultural and political significance of what people wore. Eventually I became more attune to choices made by costume designers.

I identify as a cinephile with a particular interest in period pieces, fantasy, and horror. In 2015 I was eager to see *The Witch* in theatres. This horror period piece directed by Robert Eggers takes place in 1630s New England. The authenticity of this film is

impressive. There is period dialect and dialogue, and every building and object seem to belong in this world. On the large screen of an Austin, Texas Alamo Drafthouse I noticed that there was hand stitching along the edges and seams of the costumes (and years later I recognized this technique during my Blythe House study room appointment).

Illustration 122: Screenshot at 00:23:05 from *The Witch* (2015) Directed by Robert Eggers, costume design by Linda Muir. Note the hand stitching along seams and edges.

It meant so much to me as a sewing enthusiast. I was excited to know that something as minute as hand sewing on a period costume mattered to the director and costume designer. While such detail might be lost on the stage of a live performance, here its presence transported a costume-obsessed moviegoer into the 17th century. This

experience added historical clothing construction techniques to my interest in historical dress.

Apart from my personal appreciation of these costumes, I wanted to learn more about the significance of historical accuracy in period film costumes. I reached out to Linda Muir, the costume designer for *The Witch,* and she kindly agreed to an email correspondence interview (IRB approved. Protocol # 2020-01-0132).

I was interested in the details of the costume build process. My first question was about the extent of the historical accuracy:

> Joseph Harrington (JH): I recently watched an interview with the film cast and Ralph Ineson mentioned that some costumes were entirely handmade. I wanted to verify if the seams were also sewn by hand or if hand sewing was used only on more visible elements such as the pick stitching?
>
> Linda Muir (LM): I'm certainly an advocate for historical accuracy, but I'm also a realist — a film budget would never support that kind of devotion! William's costume pieces (doublet, breeches, shirt) were removed on screen and therefore any stitching that would potentially be seen was done by hand, so interior finishings were by hand but not the seams themselves. The same principle held for all the characters, as most removed clothing or dressed on screen and were seen at night in their shifts/shirts.

For my thesis garments, I was inspired to use all natural fibers for both accuracy and environmental reasons. Another question I had was,

> JH: I read that you were very careful selecting historical fabrics for the costumes that were built. Did any synthetic fabrics make it onto these costumes?
>
> LM: No synthetic animals were harmed in the making of the film. All wool, leather, felt, linen or hemp. We did use cotton thread, but hemp thong. All linings were either linen or wool. I used a sample of authentically woven wool as a patch on Caleb's costume.

I was curious about how this amount of authenticity could be justified for making a film with a small budget:

> JH: I know the director was very dedicated to being accurate. What was the discussion like to have hand sewing, correct fabrics, and accurate notions on the costumes? Was it seen as a necessary or was there push back?
>
> LM: Robert Eggers is truly unique in that he is completely committed to the importance of accuracy. Even the most facilitative producers are a much harder sell. The quest for fabrics and notions that give the correct impression was my responsibility, as was deciding on where to apply hand-stitching for the greatest effect. There was definitely push back over budgeting as The Witch was Robert's first feature and it was low budget. In order to maximize what money we had, I suggested to Robert that we keep the number of garments to the barest necessity, which seemed appropriate to both the family's means and circumstances.
> It would be lovely, when designing a period project, to have the resources (both time and money) to create all the costuming using authentic means but in reality that is not possible (unlike creating costuming for a museum display, say) so we do a balancing act: robbing Peter to pay Paul (within the costume budget). We try to figure out what we can and cannot do without. The Lighthouse, Robert's second feature, had a larger budget but the budget/design dance was similar.

I suspect that the vast majority of audience members who saw *The Witch* did not notice the hand sewing on the costumes just as I would not notice if there were a car manufactured in 1955 used in a film set in 1953. A friend of mine explained that for some viewers, an anachronism could stand out and shatter the illusion, but when everything is correct, the elements blend into the environment of the film, and may go unnoticed. I asked Muir what her opinion was about the effects of correct period costumes for the audience member who is not familiar with fashion history or sewing:

> LM: I'm not sure whether an audience doesn't notice costuming details or if they are simply used to seeing what is typically presented as "period". It seems from the audience reaction to The Witch costuming that when given the opportunity to be steeped in a more thorough-going presentation of "authentic" they are indeed transported. I believe that even if a person cannot identify *what* is different about the construction they can *feel and see* that the clothing is different than what they

> normally watch. Clothing does not look as refined, crisp or modern (read machine made) when made by hand and that reads. I had many laughs with the cutter, imagining a film with a mother who was as bad at sewing as William was with the crops. What would those costumes look like. (Muir)

With high definition media these details are more important than ever. I am thrilled to discover that there are places for this level of care and authenticity, providing opportunities for people such as myself to flourish, to research, and practice traditional skills.

Personal Benefits of Crafting

Apart from the practical usage of handicrafts for the viewing pleasure of an audience, I am curious about what handcrafting means to the maker. Not only did I enjoy learning how to make bobbin lacemaking with the Austin Lacemakers, but I also enjoyed their company and conversation. Everyone was friendly, generous, and encouraging. Our conversation topics were diverse and I learned so much listening to the ladies talk about their life experiences. One day I interviewed the students (IRB approved. Protocol # 2020-01-0132) and asked, "Why do you attend lacemaking classes?" to discover other people's personal motivation for crafting.

Illustration 123: My classmates learning and conversing during lacemaking class.

My classmate Shirley said she enjoys, “learning new things” and making lace gives her a “sense of accomplishment” (Carter). Susan pointed out that when you make something yourself you get to decide exactly how it looks as opposed to settling for something that’s premade in a store: “It’s an old-fashioned thing and you get to connect with people who lived hundreds of years ago”, she said: “Hands are busy, and jaws are flapping.” and “you get to make something out of nothing” (Tennison). Katie said that lace making is “so hard I wouldn't be here if it weren't for the company. Sometimes I want to throw my hands up! It took me five years to see my mistakes” (Flahive). Romy said she attends class to be in the company of other women. Jo said that her aunt was a lacemaker so she was inspired to learn the skill. She also confessed, “I come to get away from my husband. He is with me 24 hours a day. I also teach a (lace) tatting class. This gives me five hours away from him” (Saunders). My instructor Karen Hickman devotes so much

time to teaching her students in and outside of class time because she wants, “to keep the tradition alive”.

It is easy to see how important the lacemaking craft and community are to Mrs. Hickman and her students. All of the members expressed an interest in my thesis project and I look forward to sharing photos of my finished pieces with them. Just like Shirley, I view crafting as an opportunity to learn new things. For personal projects, I have intentionally chosen challenging sewing or knitting patterns just to grow as an artist. Part of this thesis project was to draft patterns and try stitches I had never attempted before. But also during this project, there were moments of meditative relaxation as I performed the repetitive motions for backstitching seams, hemming, or producing weft for the wig.

Professor of Cultural Studies Susan Luckman wrote an article titled “In Our Brutal Modern World, Science Shows Our Brains Need Craft More Than Ever”. She opens by saying,

> At a time when many of us feel overwhelmed by the 24/7 demands of the digital world, craft practices, alongside other activities such as colouring books for grown-ups and the up-surge of interest in cooking from scratch and productive home gardens, are being looked to as something of an antidote to the stresses and pressures of modern living. (Luckman)

She points out that crafting can have a therapeutic quality:

> For over a century, arts and craft-based activity have been a core part of occupational therapy that emerged as a distinct health field around the end of the first world war in response to the needs of returned soldiers.

She also explains that crafting can be used as "diversional therapy (taking your mind off pain and negative thoughts) …” In her article she references a number of studies involving people with depression, anorexia nervosa, compassion fatigue, and chronic fatigue syndrome who benefited emotionally from knitting, and quilting. I was reminded of my lacemaking class when Luckman stated that

> What unites almost all of these studies, is that while the practice of craft, especially those such as knitting, quilting, needlework and woodworking, may at first appear to be relatively private activities, the benefits also substantially arise from the social connections craft enables.

The Humanity of Handmade

Whenever I see an object that was handcrafted, I become awestricken admiring the skilled work of someone else's hands. I perceive the object as being more valuable or sacred than something that was produced in a factory by a machine. One day at the assisted living center where my bobbin lacemaking classes occur, a 90-year-old resident visited our class. She wanted to give away several pieces of handmade and machine-made lace shawls, table runners, table cloths, and doilies. They were all either made or purchased by her mother between the First and Second World Wars. My instructor Karen Hickman laid all of the pieces out for her students to admire and acquire. I noticed that we were all more interested in keeping the pieces that were handmade than the machine-made heirlooms.

Mrs. Hickman explained how someone can tell if lace was made by hand. One way is by looking for areas where thread was added into the lace piece because thread ends have a tendency to stick out. Another method is comparing the size and shape of the tallies or leaves (see illustration 48 on page 74) If they are inconsistent, the piece is likely to be handmade. I decided I was only allowed to keep three doilies and one table runner.

In that moment, the phrase "no one is perfect" came to mind. I find that there is beauty in human imperfection. It proves that we're all equal and gives us motivation to improve ourselves. In art, imperfection reveals so much about our character. Accidental mistakes or irregularities in our work are markers of our imperfection that reveal moments when we were distracted, impatient, or learning. Impulsive intentional choices during the making process also reveal how we felt in a given moment. This makes the object, art, or

performance unique whereas machines are built to produce consistent results. Couture fashion designer Pierpaolo Piccioli of Valentino stated in an interview conducted by Andrew Bolton for the Metropolitan Museum of Art's exhibit *Manus X Machina* that,

> Sometimes, the machine can create an effect that is impossible to achieve by hand. But in our experience, the machine can also convey a sort of two-dimensionality – a kind of flatness and coldness, which can come across as extremely impersonal and dehumanizing. We prefer the hand, not because it is nostalgic, but because it conveys a feeling, a sentiment. For instance, the first dress in our spring/summer 2016 haute couture collection was entirely handmade in our atelier in Rome… Everything is a little imperfect, but these "flaws" convey a sense of time past… (Piccioli VII)

To support my sentimental feelings about handmade objects, I read an article written in 2015 called "The Handmade Effect: What's Love Got to Do with It" by researchers Christoph Fuchs, Martin Schreier, & Stijn M.J. van Osselaer. They propose that the handmade effect occurs when a company markets a product as handmade thus causing the consumer to perceive the product as more attractive than a machine-made product. They acknowledge that the definition of handmade is vague as virtually every manufacturing process requires some type of tool or machine:

> Thus, rather than the precise role of machines versus hands in the actual production process, we are interested in consumers' perceptions of products that are marketed as being handmade." (Fuchs, et al. 99)

They claimed that

> Products labeled as handmade might be perceived to contain (and perhaps even transmit) the artisan's "essence" in the form of his or her love for a product and production process in a way that machine-made products cannot (see, e.g., the video series "Made by Hand" at bureauofcommongoods.com). Of course, love is a sentiment that cannot be located in a product in a real, physical sense, so it should be assumed that consumers' perception of a product "containing love" is of a symbolic, figurative, "as-if ' nature." (99)

They explore the connotations of the word handmade and conduct four studies with North American and European test subjects. They began their research with pilot study where 114 participants wrote down how they felt about handmade products. They observed that love was a recurring theme, and they,

> found that some respondents perceived handmade products to require more time to produce, which might increase perceived quality, and this increased perceived quality, in turn, might yield greater attractiveness. Thus, handmade production might increase attractiveness through the effort heuristic (Kruger et al. 2004). Some respondents also associated handmade products with expensiveness and quality. Finally, some respondents suggested that handmade products were more attractive due to their uniqueness. (99)

The first study was to discover if the handmade effect exists. The second tests their theory that "perceptions of love enhance the attractiveness of handmade products". (102) Thirdly, they, "test whether handmade products become more attractive if the gift-giving goal is to use the product to convey one's love to the recipient" (105) and their final study explores if customers were willing to pay more money for a handmade item, and if "handmade production arouses other positive emotions, such as pride, happiness, or contentment" (106) because of the love exuding from the handmade item.

Their findings for the first study were that the handmade effect indeed exists. Study number two showed that the term handmade is less important when shopping for someone who is not a close friend or loved one. Their third study proved "that when the goal of a gift is to convey love, gift givers show a stronger preference for a handmade (vs. machine-made) product... (107)" And lastly, study number four revealed that their participants were "willing to pay 17% more for a bar of French soap when the soap is presented as handmade (vs. machine-made). (107)"

The researchers open this article by saying,

> In an era of technological advancement and widespread robotization, in which machines produce high-quality products to exacting specifications, it seems ironic that products are increasingly being promoted as "handmade." (98)

The findings presented in "The Handmade Effect: What's Love Got to Do with It" remind me of the feelings I had while studying the handmade extant garments at the Victoria and Albert museum. I projected my positive sentiments about handmade processes onto the clothes and I felt a connection with these deceased makers I never met. Perhaps no matter how advanced machines become, people will still appreciate and spend money on handmade goods because we find comfort in human connection.

Chapter 8: Reflection

An unexpected lesson from this project was how helpful technology has been to my process. Not only did I learn by looking at close-up photos online of extant clothing and watching free video tutorials on YouTube, I was also able to correspond with my lace instructor Karen Hickman, interview costume designer Linda Muir via email, and have a video conference fitting with my advisor Jim Glavan. I asked Mrs. Hickman how she believes we can keep the tradition of lacemaking alive:

> In today's technology world, it is important that we expose the craft online through 'social' media. I also believe that by demonstrating out in the public at events, festivals, fairs, & other such public displays is important for exposing this craft. I do this as often as I can and continually get people flabbergasted at this lace making technique. We can hold more classes in different towns around us, introduce bobbin lacemaking through other craft clubs, guilds and craft stores. I think that one day we could offer classes 'online' as colleges/universities do today. (Hickman)

Mrs. Hickman's approach reminds me of my desire to share crafting with people. At The University of Texas, I enjoyed teaching a course where students learn the basics of theatre sewing. After they learned some hand stitches, and how to operate a sewing machine, a handful of students said their mothers and grandmothers would be so proud of their work and they were inspired to attempt more sewing projects. One student told me she was interested in learning about embroidery so after class one day we stayed late and I showed her a few basic stitches for her to practice in her spare time. Another inspired student eagerly showed me a handful of scrunchies she made a year after she took my class. I felt so happy that I helped these students discover a new hobby.

A friend of mine asked me to replace a button on a pair of his shorts. I told him that I would do it for free, as long as he watched so that he would know what to do next time.

He was very inquisitive and soaked up the information. A year later he still felt inspired from his button sewing lesson and asked if I would help him hand sew toys for his niece and nephew, and we began working on two stuffed whales with button eyes.

Illustration 124: A photo taken while teaching my friend how to make stuffed whales.

I have taught two friends how to knit their first scarves. My knitting and hand sewing in cafés has struck up a few conversations with strangers. Some people have said, “I’ve always wanted to learn how to do that”. I do not know if the next day they woke up and decided to purchase their first pair of knitting needles, but I like to imagine that I planted a crafting seed in their minds.

While I cannot be sure if teaching in a classroom setting is in my future, or if I’m charismatic enough to create YouTube video tutorials, I will continue to be visible with my

projects, participate in communal crafting, share my knowledge with those who are interested, and encourage people to make. There are centuries of people who lived before us who worked diligently to perfect their crafts. Through their practice they contributed to the body of crafting knowledge and refined and expanded upon the methods they learned from their teachers. I believe it would be devastating if humanity passed all of this knowledge and skill off to machines and then forgot how to do something by hand, or if people ceased to appreciate a handmade process because it is more time consuming than machine production.

My research and practice have inspired me to continue exploring historical clothing construction and crafting techniques from the 18th and other centuries. I am already contemplating future projects. After graduation I hope to find career opportunities which would allow me to continue on this journey and inspire people to keep these and other traditional crafts alive.

At times I felt like my thesis goals may have been too large for time allotted in our program. There was a lot of trial and error that extended the process. While I am mostly satisfied with the end results, I wish I had selected lighter weight fabrics instead of the spongy textured wools. Perhaps a finer wool or linen would have been the better choice to produce more crisp and polished articles of clothing.

Frequently I wished that I had chosen to create fewer and more elaborate items such as a more heavily embroidered waistcoat and shirt with a longer, wider, and more intricate lace. I also believe that this project could have been more successful with the help of a firsthand. While I thoroughly enjoyed this process, the coronavirus pandemic and Black Lives Matter movement of 2020 greatly impacted my spirits, progress, and focus. However, the repetition of hand sewing was calming and allowed me to listen to podcasts, the news, and reflect on current events.

I feel deeply connected to these pieces because every stitch I made was intentional and mindful. It felt rewarding to take on a time-consuming task and enjoy a slow process in this current fast-paced society. As I recall the mistakes, I remind myself that I'm at the beginning of my hand needlework journey. I have learned from my research and errors and I know of ways I could execute similar endeavors more successfully in the future. The different skills used during *Homage to Handmade: An Exploration of Pre-Industrial Needlework,* remind me of the diversity of our courses in the University of Texas costume technology program. The students learn various costuming skills but it's only an introduction. I completed each class with more curiosity about the skills we learned and a desire to make corrections and improvements to my work. I am also reminded of an observation made by traditional tailor Ninya Mikhaila. While hand sewing a reproduction of a 17th century ensemble for the BBC series called *A Stitch in Time,* Mikhaila said,

> A lot of tailors specialized in particular garments so they only made coats or they only made breeches. So, I do often think when we're doing these sort of reconstructions that the period tailor would just find it absolutely laughable that we attempt to do so many different things. ("Chares II" 00:07:36 – 00:07:52)

While I often worry about the survival of traditional skills, another student in the costume technology program at The University of Texas pointed out that presently there are a number of historical enthusiasts emerging who are dedicated to period garment construction. They share their inspirational work and tutorials on social media, publish new costuming books, and have many fans following their progress.

In the 2016 Metropolitan Museum of Art interview for the exhibit *Manus X Machina,* Andrew Bolton, the Curator in Charge of The Costume Institute speaks with Maria Grazia Chiuri and Pierpaolo Piccioli who design for Valentino. Piccioli notes that there is a large age gap between people employed at their atelier. "They're either in their sixties or their twenties" (Piccioli VII). Bolton says "It's strange that this generation, which

has been raised alongside technology, should choose to reject it in favor of the hand" (Bolton VII). Grazia Chiuri replies; "I think it's because they grew up with technology that they want to reject it. For them, it's not novel or original. It's part of their everyday lives." (Chiuri VII) Piccioli adds,

> When we were young, technology-or at least certain aspects of technology--- was situated in a mythical future. This future was fantastic, infused at every corner with technology. Today, people in their twenties are looking for security outside of the internet-- beyond online social networks such as Facebook and Instagram. Maybe they want to connect with one another on a more personal level. Perhaps their era of technology has created a value system that they no longer find acceptable. Possibly they're looking for new values that will help them reconnect with humanity (Piccioli VII).

During the coronavirus shelter in place order beginning in March of 2020, I was pleased to see on social media that many people used their extra free time to learn how to knit, crochet, and sew. While shopping for supplies at Joann Fabrics and Crafts during this time, I noticed how many customers were eager to purchase fabric and other crafting supplies. This summer the fabric bolt shelves are bare. It makes me believe that people still have a strong desire to make things and are willing to slow down and enjoy a crafting process.

I remember hand sanding wood for my embroidery frame with my friend Evan Weinberger. We spent a good 30 minutes or so on this. After some silence he said "You know what? I think there's an orbital sander around here that we could plug in" (Weinberger). I laughed because we could have saved time and our hands for other pursuits. "But now", Evan continued, "we have a deeper appreciation for the orbital sander".

Appendix: HOMAGE TO HANDMADE PROJECT MATERIALS & COSTS

(Some prices are an approximation (especially items purchased from England and Germany). Cost of books, travel, unused/ extra materials, and my labor are excluded. * indicates something I borrowed or already owned.)

The Wig

Yak Hair (400g) 214.84

Weaving Thread.....11.62

Shipping.....52.80

International transaction fee 8.38

Cotton Lace (2 Metres).....104.00

Shipping.....21.21

International transaction fee 3.76

Weaving sticks and table clamps.....38.33

Shipping.....33.92

International transaction fee 2.17

Cotton Galloon.....4.46

Shipping.....7.00

International Transaction Fee 8.38

Gutermann Cotton Thread (2).....7.28

Wig Points.....*

Hammer .....*

Wooden head block .....*

Wig Total 518.15

The Shirt

Organic Handwoven Fabric 32.79

Linen thread .....*

Cotton thread.....*

Shirt total.....32.79

The Bobbin Lace

Wooden Square Bobbins (set of 24) 20.99

Shipping 7.99

Cotton lacemaking thread (1 spool).....10.00

Dutch wooden bobbins (6).....20.00

Wooden pin pusher 6.00

Wooden pin lifter 6.00

Shipping 9.00

Lacemaking classes ($3 each)..... approximately, 75.00

Small crochet hook .....*

Lace Pillow .....*

Bobbin lace total 154.98

Embroidery

Appleton Crewel Wool 57.00

Shipping 7.50

Shipping 7.50

Frame supplies 65.00

Frame labor 160.00

Crewel needles .....*

Hemp thread for mounting the wool .....*

Embroidery total 297.00

The waistcoat, coat, and breeches

Moss Green Harrin Tweed Wool (6 metres) 334.80

Shipping 61.93

Oatmeal Harris Tweed Wool (1 metre) 58.50

Shipping 19.43

French Collar Canvas 228.00

Tailor's Tape 11.95

Shipping 52.80

Buttons 139.20

Shipping 10.00

Linen for Lining 81.09

Cotton/linen blend fabric for interlingins and pockets 30.00

Linein sewing thread (unbleached, 1 spool) 10

Shipping 5.00

Linen sewing thread (brown) 10.00

Shipping 5.00

Moss Green cotton thread (3 spools) 6.98

Cotton batting .....*

Waistcoat, coat, & breeches total 1064.68

Grand Total Estimate 2,067.60

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