EXPLORING THE PROCESS OF DECONSTRUCTION OF USED GARMENTS IN
DEVELOPMENT OF A NEW METHOD CALLED TATTERING

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Abstract

CREATIVE PROJECT: Exploring the Process of Deconstruction of Used Garments in Development of a New Method called Tattering

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Clothing is acquired and cycled through stages of wear and care, and also active and inactive storage. For reasons of economics, aesthetics, and/or sustainability, discarded clothing can be claimed by another person to wear it in its current condition, or it may have appeal when altered or restyled, or several garments can be reassembled into one new article of clothing. This study was used to re-vision used clothing into wearable clothing in a new method called tattering. Not only did this study record the process and create step-by-step instructions, but it identified the channels of clothing disposal where materials can be found. This information was added into a new clothing consumption model that updated Winakor’s 1969 model. Previous information from tattering a man’s garment was used to pre-plan several process steps in tattering three women’s dresses, and to compare any difference in design for man vs. woman’s form. Activities that occurred in the design process were categorized in steps of acceptance, analysis, definition, ideation, selection, implementation, and evaluation. Illustrations and text were created for a manual that was tested with a small sample group, and can be published in the future to be shared with others. This study has shown that recycling used garments can sustain or increase the value of once loved garments, rather than send them to landfill.
ACKNOWLEDGEMENTS

It would not have been possible to accomplish the research or write this creative project paper without the help and support of the kind people around me, to only some of whom it is possible to give particular mention here.

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CHAPTER 1

INTRODUCTION

Background


In the past, new clothing styles were generally introduced according to seasons, with spring, summer, fall, and winter as the cues to change color, style, silhouette, textile prints, and fabric density. Technology and dedicated software programs have minimized the amount of time it takes to design, make patterns, cut, and sew garments, making new styles available to consumers every two to three weeks (McAfee, Dessain, & Sjoeman, 2004, pp. 4, 7).

As the clothing industry became more market driven and clothing is being seen as disposable, the consumer is more likely to wear the clothing only a few times before discarding (Bianchi & Birtwistle, 2012, p. 335; Fletcher, 2008, pp. 161-162; Fraser, 2009, pp. 6, 8; Flint, 2007, p. 3; Flint 2012, p. 25; McAfee, Dessain, & Sjoeman, 2004, p. 4; Niinimäki & Hassi, 2011, p. 1881; Gwilt & Rissanen, 2011, p. 13; Hawley, 2011, pp. 147, 149; Rissanen, 2011, p. 127). Donation of used clothing to a textile sorting facility, such as Goodwill, or throwing it in
household trash are two widely used methods of disposing of garments (Bianchi & Birtwistle, 2012, p. 340; Dunn, 2008, p. 41; Farrer, 2011, p. 27; Flint 2012, p. 27; Fraser, 2009, pp. 1, 9; Ha-Brookshire and Hodges, 2009, p. 182; Hawley, 2006, p. 3). Over 21 billion tons of textiles are sent to US landfills every year and items sent to sorting facilities have unsold inventory, with nowhere to send them. One-fifth of clothing donations made to charities in the U.S. were sold as wearable items in their retail locations (Council for Textile Recycling, 2013; Hawley, 2011, p. 151).

As garments are sorted, it is the garments in the best condition with no tears or stains that can be readily offered for sale through resale shops, such as a Goodwill store, where individuals shop for themselves and their families. Charitable organizations with social enhancement programs, such as Goodwill, Salvation Army, Oxfam International, and TRAID distribute some of the nicer used garments to individuals who cannot provide adequate clothing for themselves. Garments that are torn or stained, but whose textile is still appealing are plentiful and can be recycled, and can be transformed into new clothing styles (Dunn, 2008, pp. v, 3, 6-8, 31-38, 40-42; Flint, 2008, pp. 78, 82, 142, 210, 216; Flint, 2012, p. 189; Fraser, 2009, pp. 14, 38-39; Hawley, 2006, p. 12; Norman, 2007, p. 12; Young, Jirousek, & Ashdown, 2004, pp. 61-68).

A designer or creative person who is transforming used garments into new clothing styles has many resources for used clothing, both from organizations and individuals. Of the approximately 3000 U.S. privately owned sorting facilities, 2,700 Goodwill stores, or other charity organizations, 100-pound bales of assorted garments are available for purchase (Dunn, 2008, p. 40; Hawley, 2006, p. 8; Young, Jirousek, & Ashdown, 2004, p. 61). People are willing to give away or sell clothing they do not intend to wear again if prompted. The hunting and gathering of materials to make recycled clothing can be part of the creative process. Garments
that shrunk or have stains prove that one person’s discards are an artist’s next creation (Dunn, 2008, pp. 32, 36, 38, 40-71; Fraser 2009, pp. 27-30; Flint, 2007, p. 4; Flint, 2012, pp. 132-133, 187-205; Minney, 2011, p. 93; Young, Jirousek, & Ashdown, 2004, pp. 62-67).

Recycled unwanted garments can be turned into new, wearable clothing (Campos, 2011, para. 3-5; Dunn, 2008, pp. 32, 36, 38, 40-71, 73, 76-78, 80-81; Fletcher, 2008, pp. 98, 101, 103; Flint, 2008, pp. 24, 27; Flint, 2012, pp. 188-189, 193, 195-205; Hawley, 2006, p. 12; Stephens, 1990, p. 211). Re-visions of used garments to make a new garment is a process of transformation that can provide a wearer with a one-of-a-kind garment that fits his or her personality better than today’s fast fashion. Further, reuse of used garments is environmentally sound. An eco-friendly garment can mean the textile is made from organic cotton or recycled pop bottles, but the most environmentally conscious fabric is one that already exists (Fletcher, 2008, p. 100; Flint, 2007, p. 3; Fraser, 2009, p. 16).

This research will review the acquisition, storage, care, and disposal steps of the clothing consumption model developed by Winakor (1969, pp. 629-634), and then explore three reasons in the literature for reusing textiles: economics, aesthetics, and sustainability.

The literature on economic reasons will take us to the 1600s Aomori Prefecture, Japan, where families dressed in layered, patched clothing made from textiles passed down from previous generations (Koide & Tsuzuki, 2008, pp. 4-5). Another economic example comes from Great Depression of the United States, when housewives made garments for their families from the cotton fabric of flour, salt, sugar, and feed bags (Adrosko, 1992, pp. 129-133; Jones, 2002, pp. 171-183). Shortly after this period, economic based recycling was used in Great Britain during WWII when it was necessary for housewives to recover the usable sections of garments, hats, household textiles, and floor coverings to be reassembled into clothing, shoes, and

The literature on sustainability speaks of people participating in the green movement who believe it is important to keep usable textiles from going to the landfill. Designer India Flint, rotating house designers at TRAID Remade, and Kerry Seager and Annika Sanders of Junky Styling create one-of-a-kind garments that prolong the life of pre-existing garments, further extending the value and life of the materials (Fletcher, 2008, p. 103; Flint, 2007; pp. 3-5; Rissanen, 2011, p. 130; Hawley, 2006, pp. 12-13; Hawley, 2011, pp. 150, 152).

Finally, the literature will highlight two clothing designers who documented their process and results of ReFashioning garments into usable clothing. Designer Janet Dunn conducted research that provides descriptive and illustrative evidence of creating boutique quality clothing made from post-consumer textile waste (hereafter referred to as PCTW) in a style she refers to as ReDunn (Fraser, 2009, pp. 17-18; Dunn, 2008, pp. 3-4, 7-8, 35-71). Designer Kim Fraser conducted design based research on creating a repeated design style using materials from men’s dress trousers, with the conclusion having evidence of a business model to keep these men’s pants from entering landfills (Fraser, 2009, pp. 20-55; Farrer, 2011, pp. 27-28). Both Dunn and Fraser’s work was based on finding a solution to the extremes of fast fashion manufacturing that leads to over-consumption. Dunn’s work draws from expectations of an apocalyptic future where
we have no choice but to recycle textiles because we have depleted the earth (Dunn, 2008, pp. v, 3, 5, 8, 11, 74-76, 79, 83-87, 91-92; Stephens, 1990, pp. 2-3, 42).

**Problem**

This study will re-examine the Winakor model in light of the current clothing acquisition practices, clothing disposal processes, and propose a new model that includes re-visioning, and upcycling. In addition this practice-based research will document the steps taken to create new garments from discarded clothing in a process called tattering developed by the researcher. The resulting garment (figure 1) received two awards, (Sustainable Design Award from the Educators for Socially Responsible Business and Fashion Supplies Innovative Design Award) at the 2012 International Textile and Apparel conference, leading the researcher to believe this method should be recorded and shared (ITAA, 2012, pp. 71-72).
Purpose

The purpose of this study was fourfold. One purpose was to update Winakor’s acquisition model. The second purpose of this study was to document this method of combining discarded garments, called tattering through the creation of 3 garments. The process used deconstruction, as a method of garment design that can create an aesthetically pleasing, upcycled garment that will show that once loved textiles do not have to go to the landfill. The third purpose was to
create a manual that provides step-by-step directions of the tattering process from this research. Other researchers, people interested in recycling, and creative persons can use this manual to upcycle discarded garments. The fourth purpose of this study was to use the tattering technique to explore making a garment on the female form instead of a male form.

**Rationale**

This study will provide descriptive steps regarding the use of unwanted garments to create upcycled clothing via tattering. There will be specific information about the inspiration, the concept, draping, and construction. Having been recognized for both creativity and sustainability by ITAA, it now seems important to document the process in words and with photographs. This study will provide a guide, not only for the researcher’s future recycled clothing projects, but also for others who like to redirect discarded clothing into new clothing for either gender. In addition, by re-examining Winakor’s model, new developments can be incorporated into the model.

**Limits/ Assumptions**

The limitations in this study are as follows:

- There will be three dresses made for the study;
- The garments used in this study were previously worn and discarded;
- Equipment and lighting used for photography was not professional; and
- The technique handbook evaluators were a small convenience sample.
Definitions

For the purpose of this study, the following definitions will be used:

- **Assemblage** - an artistic creation assembled from scraps, used materials, and portions of objects (http://www.merriam-webster.com/dictionary/assemblage, 2013)

- **Bricolage** - using a variety of abandoned materials to assemble an object

- **Clothing consumption** - final “using up” of clothing (Winakor, 1969, p. 629)

- **Deconstruct** - “simultaneously forming and deforming, constructing and destroying, making and undoing clothes” (Gill, 1998, p. 28)

- **Redeploy** - re-use something that already been useful in another useful way (I. Flint, personal communication, January 25, 2013)

- **Finger crochet** - using one’s finger, as a crochet hook would be used; chain stitch formation, but instead of “grabbing” the next stitch with a crochet hook, the stitch is captured between thumb and forefinger of the hand (Jo Dean Tipton, 2013)

- **Materials recovery** - collection and processing of discarded materials into categories that allow them to be reclaimed and reused (Fraser, 2009, p. 59)

- **Objet trouvé** - assemblage using raw materials that is never disguised as something else; always apparent to what it is (http://www.oxforddictionaries.com/us/definition/english/objet-trouve%C3%A9, 2013)

- **PCTW** - post-consumer textile waste consists of discarded clothing, household items, and all consumer goods whose main component is fiber (Fraser, 2009, p. 59; Farrer, 2011, p. 27; Hawley, 2006, p. 3)
• **ReFashion** - process that intercepts discarded clothing to reclaim, re-cut, and re-fashion in order to create garments deemed fashion in a sustainable mindset (Fraser, 2009, p. 60; Farrer, 2011, p. 27)

• **Repurpose** - when old becomes new (Flint, 2012, p.192)

• **Re-vision** - apply new vision to an item by a stylist/ designer/ manufacturer (Tipton, 2013)

• **Tattering** - the laddering of scissor cuts in a fabric, where the “ribboned” fabric is subsequently crocheted in a chain stitch; clothing that reveals cut, unfinished yarns as an aesthetic (Jo Dean Tipton, 2013)

• **Upcycle** - reuse discarded objects or material in such a way as to create a product that retains or elevates the value and quality of original


**Summary**

Assemblage of used textiles to create wearable clothing has been shown to exist as far back as the 1600s in this research. While the sections of the literature review will address the reasons for reusing textile as economics (war-time restrictions and poverty), aesthetics, and sustainability, this researcher will create three dresses in the spirit of aesthetics and sustainability, while using material recovery processes of the war-time restrictions. The world’s textile sorting facilities, while encouragingly keeping textile waste from landfill, has textiles that can be used for the process that will be documented in this study.

People acquire clothing, and later decide that it will not be worn by them or anyone in their family. The garment could be thrown out, donated to a recycling facility and adopted by a new owner to be used as it, or modified. There is the possibility that several of these garments, will be combined using the steps discovered in this research, to have an extended life and value.
CHAPTER 2

REVIEW OF LITERATURE

This study will provide descriptive steps regarding the use of unwanted garments to create upcycled clothing. There will be specific information about the inspiration, the concept, draping, and constructing. At the 2012 ITAA conference, this researcher received the Sustainable Design Award from the Educators for Socially Responsible Business for a man’s tattered garment. Being that this was the first time this method was used, it now seems important to document the process in words and with photographs. This study will: 1) search for disposal channels of clothing in order to update Winakor’s 1969 model of the clothing consumption process; 2) document the creation of three women’s dresses using the tattering process; and 3) provide a guide or manual, not only for the researcher’s future recycled clothing projects, but also for others who like to redirect discarded clothing into new clothing. This research will also 4) explore making a garment on the female form instead of a male form using tattering.

The review of literature was divided into three main sections. The first section looked at the steps of acquiring, using, caring for, storing, and disposing of garments. The second section focused on three sub-sections as to why garments are recycled: economics, aesthetic design practice, and sustainability. Selected examples show precedent historical patterns for
contemporary recycling. The third section looked at the design practices of two designers who upcycle clothing.

Acquiring, Using, Caring for, Storing, and Disposing of Garments

In 1969, Geitel Winakor developed a model (figure 2) that described how garments first became a possession; then the alternating of the wearing, caring for, and storing; and then the discarding moment. Her research provided this flow and stock model, which is referred to by the label notations throughout the following text.

![Figure 2: Model of the Clothing Consumption Process (Winakor, 1969)](image)

New and used clothing was acquired by purchase or as a gift from someone else (A). Garments considered to be actively stored were those that were easily accessed on a daily basis,
such as from the bedroom closet, or a hall closet for outdoor coats, jackets, and sweaters (F). As these garments were worn (D), they may be returned to active storage, or need to be laundered, dry cleaned, mended, or altered for a better fit (E). Inactive storage was when the garments were stored away, due to change in seasons or in the hopes that a child would grow into them (J). Active storage may have been rotated into inactive storage during the year because of seasonal changes, to be brought back into active storage at a later date (F to J, J to F) (Winakor, 1969, pp. 629-631).

Sometimes the garment did not suit the fashion or situation when it was time for it to emerge from inactive storage. Concerning children’s clothing, they may refuse to wear the garment, their build was different from the shape of the garment, or they grew past the size while it was in storage. The clothing may stay in storage, as the person in charge of the inventory may hold onto it if there was another child that may grow into it. If the household did not have another child, or family member or friend’s children that might use it, it may be decided that this article of clothing has been used up and was ready to be discarded (I) (Winakor, 1969, p. 631).

For some people, such as Coco Chanel, who was known to only have three suits to her name at any one time (Flint, 2012, p. 102), the amount of clothing in their possession was monitored, allowing for a new purchase only if another garment was disposed of (I) (Winakor, 1969, p. 633; Ha-Brookshire & Hodges, 2009, pp. 179, 185-186, 190-191). For others, the purchase of new item did not replace something in their inventory, as the garments in their clothing assortment may appear to still have usefulness (F, J) (Winakor, 1969, p. 633). Today’s newly built homes usually have large walk-in closets that may persuade people to keep clothes longer than usual (Flint, 2012, p.108).
When a person or family moves, it was sometimes not possible to take all belongings, and a portion of personal clothing would be deemed not important enough to travel the journey and the quantity of clothing was diminished by disposal (I) (Winakor, 1969, p. 632). Disposing of clothing can include handing down, throwing away in a landfill, selling, exchanging, abandoning, or using for rags. At the moment of realization that a garment will get no more wear from its owner, was also a moment that the garment could be considered to be made over or passed onto a secondhand shop or rummage sale. Clothing was a durable good that was not consumed all at once, and could be passed on to others (Winakor, 1969, pp. 631-632).

**Economics**

**Boro Clothing of Northern Japan**

Hemp was the only plant that could be grown in the cold climate of the Aomori Prefecture, in the northern part of Japan that could be used as fiber for weaving cloth. The poverty-stricken Tohoku farmers who lived in this mountainous region during the Edo Period (1600-1868), were isolated and did not have access to the cotton fiber grown by farmers south of Aomori in the Kanto plains (now Tokyo), and the Kinki region (now Kyoto and Osaka). The small amount of hemp harvested after a short growing season was woven into a few yards of cloth during the following harsh winter months. Some of the fabric was traded for needles and thread, and for the services of local dyer to dye the cloth with indigo, which made the fabric impervious to insects. Because fabrics in this region were so precious, they were passed down through as many as four generations. At funerals, the family members would fight over who got the deceased’s kimono. During the eighteenth century, occasional cargo ships began bringing cotton kimono scraps to these Tohoku villages. Housewives would trade apples for a small
shared bale of filthy rags that needed to be washed in lye and rice-rinsing water, and scrubbed with fish skin to remove the grime (Koide & Tsuzuki, 2008, pp. 4-5, 21, 37, 63, 77, 89, 109, 119).

The clothing of these “snow country” farms was made from boro: scrappy rags. Multi-layered garments were peppered with decaying holes, patched up, and repaired many times. The length, thickness, and weight of kimono depended on whether it was a Donja (figure 3, sleeping garment), Tanzen (for indoor wear), or Shigoto-gi (for outdoor farming) (Koide & Tsuzuki, 2008, pp. 4-5, 22-29, 37).

![Figure 3: Donja Sleeping Robe](image)

*Figure 3: Donja Sleeping Robe*

1600s, Aomori Prefecture, Japan

The layers were mostly indigo colored hemp fabric patches, forged with the kimono cotton rags of earth tone woven stripes or plaids, indigo block prints, and ikat. These stained and
blotched garments were held together with vertical and horizontal hand stitches, called sashiko stitches that allow movement of layer against layer. For coldest weather, stiff hemp roughage or hemp fabric scraps were stuffed between fraying, decaying layers. Women’s work bloomers, men’s work trousers, diapers for the babies and elderly, children’s kimonos and leggings, tabi split toes socks, and work mittens were made entirely out of cloth patches. The layers of the long-sleeved, patched Hadagi (undershirts) with mismatched front button closure were stuffed with cotton scraps and worn under kimono in the coldest of months, trying to keep the wearer warm (Koide & Tsuzuki, 2008, pp. 9, 12, 22, 24, 37-49, 52-57, 63, 68-71, 80-81, 86-87).

From 1965 to 2005, archeologist Chuzaburo Tanka traveled this now well-accessed area to collect 786 pieces of sashiko-stitched clothing that are now National Cultural Properties. He declared that the harsh and poor living conditions produced beautiful overlays of incredible beauty (Flint, 2012, pp. 158-159; Koide & Tsuzuki, 2008, pp. 5, 37, 109, 119, 127).

**America’s Great Depression: Making Clothing from Feed Bags**

![Feed sack dresses](image)

*Figure 4: Feed sack dresses*

In 1929, the Great Depression began in the United States and the scarcity of new cloth meant using the printed sugar, flour, salt, and feed sacks to make clothing (figure 4 & 5). The bag companies were pleased with the popularity of the bags and constantly updated the flowery, pretty designs on their bag to entice the frugal housewife to purchase their product (Adrosko,
As a small household might only purchase five or ten pound bags, it became known that the wives of chicken farmers would sell the one hundred pound feed bags to others for twenty five cents each, or for floor sweeping trade. It took approximately three of the hundred pound bags to make a dress, and it was common that the wives and daughters of the farmer would supervise the unloading of the feed trucks and would pick according to the prints of the bags that suits their taste and the quantity of that print to make the garment they wanted (Adrosko, 1992, p. 130; Jones, 2002, pp. 175-177).

Figure 5: Preparing the cotton sack

Here's How to Use COTTON BAGS...

This is the way to:

RIP THE BAG
Cotton bags are sewn with a chain stitch. Cut chain close to bag in corner. Take top thread in one hand, bottom thread in the other. Pull . . . that's all there is to it!

REMOVE THE LABEL
Almost all bags have band labels for brand identification. Soak the bag in water and the label comes off in a jiffy! Some brand names are printed in washable inks that come out easily when soaked in warm, soapy water.

Cotton bags are available in a variety of sizes, from 5-lb. sugar bags to 100-lb. feed bags. And don't overlook the smaller ones. Remember, there's a use for every size.
As the hard times of Great Depression were ending, WWII held many in the persistent lack of resources and feed sacks continued to be used for sewing. The Percy Kent Bag Company employed A. Charles Barton, a New York fabric designer, who toured the Midwest to see how women used the sacks, and then created prints for the bags that gave these women a sense of worldliness. The P/K bags were advertised in Feedstuffs and Flour and Feed as the glamour sacks of America. Another bag company, Bemis, used panels of farmwomen to pick their designs. In the 1940’s, the Textile Bag Manufacturers Association had published idea and pattern booklets with the titles “Bag Magic”, “Thrifty Thrills with Cotton Bags”, and “Smart Sewing with Cotton Bags.” The booklet, “For Style and Thrift, Sew with Cotton Bags” sold patterns for ten cents each, with an example being style 8585 (figure 6) that used four bags measuring 36” x 40” and one bag measuring 22” x 27” to make a Button Front Frock for sizes 12, 14, 16, 18, 20 and 40 (Adrosko, 1992, p. 132; Banning, 2005, pp. 228-230).

![Figure 6: Play clothes for summer can be made from feed sack](image)

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Great Britain’s Mend and Making Do during WWII

During WWII, when all British manufacturing facilities were only used for war-related products, clothing production for citizens was halted and supplies of new goods that existed when the war started ran out because of the duration of the war. The British Board of Trade (BoT) used the cartoon figure, Mrs. Sew-and-Sew (figure 7), as encouragement for women to make and recycle the family apparel and household textiles (Norman, 2007, pp. 8-11, 17, 27, 39, 55, 61, 93, 101, 107, 111, 121, 125, 129, 131, 135, 141; Reynolds, 1999, para. 1-4, 10).

![Figure 7: Mrs. Sew-and-Sew](image)

Women’s magazines included free dress patterns that encouraged using scrap fabrics and making new garments from worn ones. When lower class women, who sewed for upper class families, took better paying war related jobs, the upper class women learned to sew by taking government provided sewing classes that taught mending and plain dress making (Norman, 2007, pp. 11, 58, 134; Reynolds, 1999, para. 8). The president of BoT, Hugh Dalton, wrote a letter to all women’s voluntary associations saying that it was every woman’s duty as an important part of war effort to make the household garments from material they had available
(Reynolds, 1999, para. 1-3). The original slogan for this effort, ‘Mend and Make-Do to save buying new’ became widely known as ‘make do and mend’. Public exhibits, sewing demonstrations, newspapers (figure 8), and BBC broadcasts announced that citizens must make their clothes last as long as possible and maintain good personal appearance, or it weakened the war effort (Norman, 2007, p.12; Reynolds, 1999, para. 4, 9-22).

[Image: British Board of Trade pattern advertisement]

**Figure 8:** British Board of Trade pattern advertisement

Government produced leaflets made it widely accepted to all classes to replenish a family’s clothing supply by reclaiming the useable parts of shabby clothing. The Make Do and Mend leaflets explained in detail how to take old clothes apart at the seams, re-cut, and reassemble to fit new measurements. Instructions were also given on how to unravel yarn from disgraceful sweaters and prepare it to knit new items (Norman, 2007, pp. 14-16, 26, 49-52, 57-
See Appendix A for additional examples of leaflet topics and content

**Aesthetics**

**Natalie Chanin and Project Alabama**

Natalie Chanin, designer for Project Alabama from 2000 to 2006, reclaimed textiles from garments purchased from Salvation Army to create clothing that were sewn, beaded, and embroidered by hand (Flint, 2012, pp. 166-167; Haight, 2008, p. 20). Chanin, who grew up in Lovelace Crossroads, Alabama, had moved away to attend college, but upon return many years later, learned that the textile industry had disappeared, and that there were many people of the area, now without employment. Relying on their expertise in handling fabrics, she set up a studio and began making her style of upcycled garments. The seamstresses gathered in the spirit of a community-quilting circle that Chanin grew up in as a child, where each seamstress was taught to use a doubled thread, knotted in a strong solid knot at the end, and running their fingers up and down the thread to settle the fibers together. This practice of “loving your thread” was believed to give true essence of the worker to the garment (Chanin, 2012, pp. 4, 5, 21 -22, 28-29; Silva, 2002, para. 3-4, 15). Chanin’s ReFashioned clothing was featured in Vogue magazine, shown on the runway during New York fashion week, and sold in prestigious Manhattan stores like Bergdorf’s and Barney’s, as well as, Browns in London, and L’Éclaireur in Paris (Silva, 2002, para. 4). This art-to-wear clothing company, run by Chanin and partner, Enrico Marone-Cinzano, worked with stitchers, who could spend as much as three weeks cutting and sewing to create a garment that sold for thousands of dollars (Silva, 2002, para.14).
Each garment had a label with the creator’s name, also saying it was a one-of-a-kind and handmade. A bricolage method of overlapping and hand stitching together layers of reclaimed fabric began the process of making a piece of clothing (figure 9). Garment pieces were cut from the assembled fabric and these sections were sewn together, creating a garment with exposed seams. More time was invested by cutting away small shapes in the top layers and stitching down those edges, exposing and securing the bottom layer of fabrics (Chanin, 2012, pp. 44, 98-103, 140-141, 152-153, 162-163; Flint, 2012, pp. 166-167; Silva, 2002, para. 14-15).

Figure 9: Project Alabama coat

Chanin met artist and filmmaker, Lola Schnabel during a 2002 ready-to-wear runway show the Oscar Wilde Room at L’Hôtel in Paris. Chanin had been welcoming artists to send their
drawings, which could be embroidered on repurposed fabric, and made into garments. Lola did just that. She also traveled to the Project Alabama studio to work with the stitchers to create boned corsets (figure 10) that included pieces of her paintings on canvas. The stitchers also re-created Lola’s pencil drawings in thread on reclaimed fabric (Silva, 2002, para. 1-2, 6-11).

Lola’s dark themes of death and quest of spirituality, done in wavy, heat off the pavement stokes disturbed the workers, and they confronted her to find out what vexed such a young person. Eventually they were satisfied when they found Lola’s sweet side, and the drawings provided conversation in the sewing circles to unravel the meaning of the work. They were getting acquainted with modern art for the first time. Schnabel agreed to the stitchers’ request to not send any artwork with nudity, as it shocked them (Silva, 2002, para. 9-13).

![Figure 10: Lola Schnabel/ Project Alabama Collaboration](image-url)
Maison Martin Margiela

Martin Margiela was interested in the inner goings-on of a garment: the seams, the lining, and the essence of the machines and people who constructed it. Garments were turned inside out to share Margiela’s findings, then expertly cut and re-shaped, replacing cut-away sections with muslin from a tailor’s dummy or sections of a toile (Debo & Loppa, 2005, p. 382; Di Trocchio, 2011, p. 101; Gill, 1998, pp. 27, 45; Vinken, 2004, p. 31).


Figure 11: Maison Martin Margiela Fall 2012 Couture
A fabric print, orchestrated by Martin, appeared to be re-sewn garment pieces, but were in fact realistic photographs of sweaters and sequined bodices printed on the surface of a lightweight textile. Simple garments were cut and sewn using this fabric, allowing the viewer to think it was ReFashioned garments, but was in fact, trompe l’oeil print of discarded textiles (Debo & Loppa, 2005, p. 382; Di Trocchio, 2011, pp. 103-104). Flea market scarves were made into skirts, and old stockings into pullovers, where re-enforced opaque toes and heels were positioned as breast and elbow covers. Margiela referred to this work, as recycling, and also as aesthetic artwork, with no intention of reference to ecological consciousness. His vision was to show combinations of garments that show age through scuffs and rips that would not represent a certain fashion season: he was presenting a permanent season (Debo & Loppa, 2005, p. 382; Vinken, 2004, pp. 69, 143). Martin Margiela’s claim as Fashion designer/rag collector reflects his motto: textile refuse cannot be allowed to collect and must be made use of (Vinken, 2004, pp. 69, 144). The 2012 Women’s Couture collection featured a vest and a jacket made from worn baseball gloves and reworked lace (figure 11), and a jacket was made from a windsurf sail (WWD, 07/04/2012).

**Sustainability**

**India Flint and Prophet of Bloom**

While Australian clothing artist India Flint was growing up, family’s socks and dresses were darned by her grandmother, who believed one should not be embarrassed by clothing whose structure was harnessed into serviceability with layers of patches. While India claimed her birthright of sewing skills from generations of sewing women, she wondered if people suffered from a kind of tactile deficiency because they did not participate in creating their own clothing.
Flint enjoyed the deconstruction process of picking apart seams and restyling several garments by draping and cutting, using hand and machine stitching to remold discarded textiles into something fresh (figure 12) (Flint, 2012, pp. 30133, 188-189, 197-205).

*Figure 12: India Flint’s dress made from men’s dress shirts*
Flint referred to the fabrics re-used in garments as redeployed, which to her, means re-using something that already had been useful in another useful way (I. Flint, personal communication, January 25, 2013). She scoured thrift stores, opportunity shops, flea markets, and garage sales worldwide to find thrown away garments and buttons. When she found a button box full of glass, crystal, jet, and mother-of-pearl buttons she images the gorgeous embellishment for the eventual fabric combination garments she will create. She reveled in the creativity during the hunting and gathering of the materials to create upcycled clothing (Flint 2012, pp. 132-133).

Flint’s garment refurbishing company, Prophet of Bloom, was somewhat of a service provider; one of garment maintenance, where Flint combined and restructured a garment. Depending on the client, she covered stains or simply created a design by printing the cloth with leaves, flowers, and berries. Flint’s re-using of textiles was her way to honor the work of all the harvesters, spinners, weavers and knitters, and constructionists who were a part of the original garments that she used (Flint, 2007, p. 4).

Flint shared these methods for simple reconstructed projects (figures 13-18) for beginning ReFashion projects (Flint, 2012, pp. 199-200):
● To Make a Shirt Sleeve Skirt

Start with three dress shirts. They can be the same color, or different colors, or different prints or stripes.

*Figure 13: Dress shirts*

Pick the sleeves off the shirt with a seam ripper.

*Figure 14: Shirt sleeves for project*
Pick open the underarm seams, cutting though the cuff with scissors, so the sleeve pieces lay flat.

By knowing the wearer’s waist and hip measurement, sew several sleeves together as needed to create a tube for a skirt. The cuff edges should be at the top to be able to use the buttoning as a way to get in and out of the skirt.
Ruffles can be cut from one of the shirt that sleeves were cut from.

![Figure 17: Cut ruffles](image)

Re-button one section of the ruffles to the next, gather at the top and sew to the skirt bottom.

The lower edge can be marked parallel to the floor, or any shape the wearer wants.

The edge can be finished with a rolled hem, or bias binding tape (Flint, 2012, p. 205).

![Figure 18: Sleeve skirt](image)

Additional Flint methods for simple reconstructed projects can be found in Appendix B

**TRAID Remade**

“We love the clothes you don’t,” was the saying TRAID (Textile Recycling for Aid and International Development) had painted on the side of trucks that could be scheduled to pick up discarded garment/textile from homes in the United Kingdom (Fletcher, 2008, pp. 98-99).
TRAID Remade, reformed combinations of these collected waste textiles into one-of-a-kind wearables at Brighton Beach seaside studio (Fletcher, 2008, p. 98; Hawley, 2006, p. 12). TRAID Remade’s belief was that reusing textiles rather than throwing them away was better than buying clothing made by children or by workers earning poverty wages. They also believed that the creation of garments should not damage the environment, or cause harm to the people that make them. The clothing made from collected, unwanted clothing was sold in their shops around the UK and online and the money was used in the developing world to support projects fighting global poverty, exploitation, and environmental degradation across the textile supply chain. TRAID’s garment shapes were one-of-kind because of the limited reproduction capabilities when using donation (About Us TRAID Remade).

However, a sweatshirt style (figure 19) made using a sweater upper portion with the sleeves attached, sewn to cut sections of print garments taken from dresses was offered continuously during the year (About Us TRAID Remade).

*Figure 19: TRAID Remade shirring waist sweatshirt*
Junky Styling

Junky Styling of London transformed vintage fabrics and men’s suits from jumble sales and charity resellers into unique pieces made to be sold online, or in their two stores (Fraser, 2009, p. 17; Minney, 2011, p. 167). Junky Styling used well-tailored men’s suits and dress shirts that were made from beautiful fabrics in most of their creations. Their clever, artistic with a hint of novelty styling included extracting an area of one garment and inserting into a cut out shape in another, with example: panels cut from a man’s suit jacket that include welt pockets with flaps replace areas at the lower side seam of the leg of men’s pants to give a cargo pant look (Minney, 2011, p. 159). Owners and designers, Kerry Seager and Annika Sanders, who had no formal design or construction training, also worked directly with clients, restyling combinations of garments that they currently owned. Objet trouvé dress made of men’s shirt collars (figure 20) was Junky Styling’s contribution to a global conversation about Re-visioning discarded clothing at the Ethical Fashion Forum at the 2009 London Clothes Show (Fletcher, 2008, p. 103; Flint, 2007, pp. 3-5; Rissanen, 2011, p. 130; Hawley, 2006, pp. 12-13; Hawley, 2011, pp. 150, 152; Vercruyssen, 2010, para. 1).
Two Clothing Designers that ReFashion

Janet Dunn

Designer Janet Dunn used second hand clothing to make costumes for the theater and television and also to sell as one-of-a-kind boutique garments. Costumers have always recycled garments from past productions, and worked with discarded garments, as it was easier to find older textiles that can be mixed to represent a character in a pile of discarded clothing, rather
than by shopping for fabrics. Dunn found sifting through bags of donated clothing that friends and her community bring her to be more rewarding and creative, as these garments took less time to convert to a costume than patternmaking, cutting, and sewing the entire garment. Costumes also did not have to be pristine, as they were seen from the distance of the stage to the audience. Also costumes were easily adapted to a character using appliqué, markers, paint, dye, or Velcro® to attach trims and create details to the surface, making used clothing the most sensible material choice in terms of cost (Dunn, 2008, pp. iii, 6, 31-35, 38, 50, 54, 57; Fraser, 2009, pp. 17-18).

Dunn’s contemporary garments (figure 21) that were sold in boutiques appealed to customers that prided themselves in following the three R’s concept- reuse, recycle, and reduce. Dunn believes that greedy consumerism will deplete the earth, and her design approach is a matter of preparing skills for an apocalyptic time when we have no choice but to recycle textiles. (Dunn, 2008, pp. v, 3, 5, 8, 11, 74-76, 79, 83-87, 91-92; Stephens, 1990, pp. 2-3, 42).

![Figure 21: The Sky is Falling](image)

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Once Dunn acquires garments by purchase or donation, each piece is examined and cleaned, then documented with description, cost, condition, date, and potential, then categorized on racks in her studio. If a garment is unusable, closures and trims may be salvaged and stored, and unwanted materials are recycled as rags (Dunn, 2008, pp. 41-42). Dunn continued development by draping several garments on several body forms; rearranging placements, and filling out a specification sheet as they were constructed and further developed. On the form that she fills out, there is a notes column that details if the new garment has the potential to be produced in multiples, whether the style does not have hanger appeal, if the garment would appeal in a variety of sizes, and any other documentation that could serve to standardize processes (Dunn, pp. 43-71). Dunn’s juxtapositions of fabrics have novelty and are tastefully amusing, such as fur on a track suit or a real curler stuck to the hair of a print of a girl on a top. Her musings while creating are revisiting thoughts of previous owner of the garments, if she knew them, and recalled memories of ones who have passed. Interesting entries in her notes were: she wondered if people would be squeamish about wearing a dead woman’s jacket. She continued to create ReFashioned clothing in the spirit of make-do, what she called slow fashion and she will continue to investigate the audience for her re-visioned clothing. Meanwhile, it offered her employees and herself the creative process that they wanted in their lives (Dunn, 2008, pp. 35-37, 56, 80-81).

Kim Fraser

Fraser’s research concluded that men’s dress trousers provided a consistent shape of fabric to work with, once the seams were picked apart. She developed the dress pictured here (figure 22), and believes this ReFashion garment can be produced repeatedly, in a business setting, in order to build enough value and demand for the men’s dress trouser worldwide, to
keep them from being sent to landfill. One dress used the fabric of one trouser (Fraser, 2009, pp. 54-55; Farrer, 2011, pp. 27-28).

Figure 22: Dress made from a pair of men’s trousers

Summary

Upcycling previously loved garments has been a practical way to create new clothing, as the textiles already exist, and were plentiful. Many people share the Make Do and Mend mentality, while some carried on with it because resources were slim, some simply enjoyed the recycling process and the beauty of the garments, and others wish to keep textiles out of the landfills.
Previous ReFashioning studies were used in combination to enhance the tatter design process. The steps included acceptance, analysis, definition, ideation, selection, implementation, and evaluation. These steps guided the researcher when revisiting previous steps and refining the design process.
CHAPTER THREE

METHODS

The purpose of this project was to: 1) search for the disposal channels of clothing in order to update Winakor’s 1969 model of the clothing consumption process; 2) record the steps during creation of three women’s dresses using the tattering technique; 3) provide a guide or manual, not only for the researcher’s future recycled clothing projects, but also for others who like to redirect discarded clothing into new clothing; and 4) to explore making a garment on the female form instead of the male form using the tattering technique. This chapter will address the procedure used to achieve three tattered women’s garments and record the process. It will mention relevant theories from the literature review that were applied during the process of the project, and describe any challenges. It will also direct the reader to the Appendix to read relevant thoughts that occurred while forming the three dresses.

Procedure

This study will document process of creating tattered garments by photographs and the development of instructions for others to try the tattering techniques. The design process began by identifying seven steps of the design process: acceptance, analysis, definition, ideation,
selection, implementation, and evaluation developed by Koberg & Bagnall (1991, pp. 26, 35, 37-38, 40-120). These steps will be discussed in greater detail in Chapter 4.

**STEP 1: Acceptance- Motivation to Choose this Project**

Motivation involves imagining the different components of research and how the outcomes will mesh together, and agreeing to move forward with that research. What was accepted for this project was to demonstrate that discarded garments had value and could be reused, instead of being sent to landfill. Identifying the channels that clothing takes once it is discarded will be included in a clothing consumption model. The method of construction to recycle garments into new clothing called tattering can be shown to absorb clothing back into the use stream. This research was also motivated by experimentation of creating women’s garments and comparing them to a previous man’s garment tattering. This project will utilize all the findings to create a manual that will allow others to become part of the solution to recycling clothing and knowing where to find said clothing to work with.

**STEP 2: Analysis – Gathering Information**

Analysis involves identifying what is already known and applying it to the plan. Jīa, a garment that had been created previously using tattering, holds information about which fabrics worked the best for tattering. Jīa’s textures and fabric placement displayed the aesthetic that will be sought out for these women’s garments to be created in this project. Using inside out garments that display the inner goings-on and creating slashes in garments to create unfinished, raveling edges is key to the aesthetic.
STEP 3: Definition- What Will be Accomplished

Definition is planning out what needs to be done; the questions or projects that will be done in order to achieve an answer. This project will explore creating three women’s dresses using the tattering technique. Creating women’s garments will be developed from and modifying the process used to make a man’s tattered garment. The steps will be captured using photographs that not only help the research progress, but also were visual comparisons for the researcher to study, choose the most appealing components and juxtapositions, and form a strategy for the process. Types of disposal methods will be identified to create a new clothing consumption model.

STEP 4: Ideation- Alternate Way to Achieve Goals

Ideation is weighing the opportunities that will occur in order to find evaluation, and obtain materials. This will involve choosing amongst all the characteristics in the discarded garments - color, texture, weight, and amount of stretch. It would involve analyzing whether making decisions as the project progresses, or a distinct step-by-step plan is best. This step in the design process will ask how and from where garments can be collected. This step will explore different ways to document the process of tattering.

STEP 5: Selection-Picking the Method to Reach the Goal

Selection is taking what is known from experience and knowledge and creating a plan and a procedure to follow. This would involve from where and how to choose discarded garments. It would also involve learning how to use a professional camera to document the
actions of the design process, as they occur, of choosing garment possibilities, the base layer, and the final juxtapositions of garments.

STEP 6: Implementation- Putting the Plan into Action

Implementation describes the process in great detail. This descriptive step-by-step will tell from the beginning how the colors were decided for each of the three dresses, and how the garments were acquired. It will reveal within each color group, how from the collected garments that a base layer was chosen. It is document of the creative process of draping and pinning experimentation of the garment juxtapositions, through five sessions per dress, that photographs will be reviewed to make a final choice. The process of slashing and finger crocheting, called tattering, will be followed and recorded, one dress at a time. It is in this step that if a garment needs to be removed, replaced, or added, the research will return to step five to revisit options. Process was further documented by developing a step-by-step-manual, all of which is illustrated with vector images created by the researcher. Photographs were taken and included in the Appendix.

STEP 7: Evaluation- Measuring the Outcome

Evaluation is the final consideration after the research is complete. At the culmination of the construction of the dresses, the evaluation will be performed by the researcher and also externally to determine if the garment met the aesthetic and sustainability expectations. The external review will be in three parts: first of the dresses to a professional design competition and a second and third of the manual and model by convenience samples. The following questions will be answered by these evaluations.
**Researcher Evaluation**

The researcher will evaluate the garments based on her own aesthetic and prior experience with producing and selling upcycled garments. The researcher will evaluate the manual and model based on her teaching experience and research.

*Researcher questions*

- Were the garments upcycled into wearable clothing?
- Did the aesthetic of the garments coincide with the researcher's standards for aesthetics?
- Was tattering a woman’s garment similar to tattering a man’s garment, and were there any differences?
- Did the research provide step-by-step information that could be shown in a handbook to others?
- Did the consumption model show that used clothing could be turned into new clothing using tattering?

**External Evaluation**

The external evaluation was implemented in 3 parts.

*External Evaluation of Garments:*

Submission of these tattered garments, in combination with purpose and process, to the ITAA conference was used as a method to evaluate the visual design elements by a jury of industry professionals. Other indicators for acceptance in inclusion were the quality of technique, the creativity of design, and well-written abstract.

*External garment questions*

- Would tattered garments appeal to the general public?
- To whom would tattered garments appeal?
• Was discarded clothing retained and shown to have extended value?

**External Evaluation of the Manual:**

A sample group of eleven apparel design students evaluated the clarity of the manual instructions. They first read the writing and reviewed the illustrations created for the tattering manual, observed a demonstration of making a shirt from three used garments, and were given used garments to re-vision into a top. The evaluation was based on the students’ ability to tatter a garment by following the manual.

**External Manual questions**

• Did the sample group of students understand tattering from the instruction and illustrations created for the manual?

• Were steps documented and displayed visually and with words in such a way that others can implement tattering?

**External Evaluation of Model:**

A researcher in the area of clothing consumption was consulted about the model. The researcher provided comments based on her knowledge and experience.

**External Model Questions**

• Was the clothing consumption model expanded to include clearly defined methods of discarding unwanted clothing?

• Were all the means of disposal and reuse/upcycling represented accurately in the model?

**Relevant Processes Applied**

The relevant methodologies and ReFashioning processes from several studies discussed in the literature review were used as the basis for upcycling second hand garments into new
fashion. The literature provided several individuals that utilized old or used textiles- Natalie Chanin, (Flint, 2012; Haight, 2008), India Flint (Flint, 2012), Martin Margiela (Debo & Loppa, 2005; Di Trocchio, 2011; Gill, 1998; Vinken, 2004; WWD, 07/4/2012), as well as, several companies, such as TRAID Remade (Fletcher, 2008; Hawley, 2006) and Junky Styling, (Fletcher, 2008; Flint, 2007; Fraser, 2009; Hawley, 2006; Minney, 2011; Rissanen, 2011; Vercruyssen, 2010) that incorporated used garments into new garments. In addition, the Boro society (Koide & Tsuzuki, 2008) also utilized layering and pulling lower layers through upper layers of old textiles in their garments that is part of tattering. Janet Dunn (Dunn, 2008) and Kim Fraser (Fraser, 2009) gave detailed instructions for their new garments that inspired the creation of the tattering manual.

It was the photographs documenting the work of Flint (2010), Chanin (2006, 2008), Margiela (2012), Junky Styling (2010), TRAID Remade (2013) and Dunn (2008) that provided the proof that there is a target audience for garments made from recycled textiles, thus the impetus to move forward with tattered woman’s garments.

All of the societies and audiences discussed in the review of literature reused textiles, providing the push to update Winakor’s model.

**Challenges**

While the redeployed materials have been admired and purchased by many people, it can also be noted that an equal number of family, strangers, consumers, students, and journalists, have not liked the researcher’s deconstructive work of manipulating worn fabrics into new clothing. An additional challenge to this project has been in comprehending the organization of writing a professional paper, and working on different versions of Word that automatically
changes margins and spacing. This paper also grew past the maximum limit in size and had to be revised several times.

**Noted Thoughts during Creation of Three Dresses**

Thoughts not directly related to the purpose of this project during the process of creating the dresses can be seen in Appendix J. This included the time it took to make each dress, and considerations of weight and shedding of fibers during wear. These thoughts were written down as they occurred during the tattering process.
CHAPTER 4

RESULTS

The purpose of this project was to: 1) search for the disposal channels of clothing in order to update Winakor’s 1969 model of the clothing consumption process; 2) record the steps during creation of three women’s dresses using the tattering technique; 3) provide a guide or manual, not only for the researcher’s future recycled clothing projects, but also for others who like to redirect discarded clothing into new clothing; and 4) to explore making a garment on the female form instead of the male form using the tattering technique. This chapter will explain the actions taken during each of the steps of the design process of three dresses.

Steps of Design

The activities were identified before the process began, and categorized into each of the seven steps of the design process: 1) acceptance, 2) analysis, 3) definition, 4) ideation, 5) selection, 6) implementation, and 7) evaluation as recognized by Koberg & Bagnall (1995, pp. 26, 35, 37-38, 40-120). During steps 6) implementation and 7) evaluation it will be divided further to address the three dresses separately to record their individual processes in these categories. The steps will be explained in sequence; however it will be shown when steps have been revisited to solve a problem. Notes will be included in the Appendix J.
Step 1: Acceptance - Motivation to Choose this Project

This project was chosen to investigate how further extending the life of used garments by recycling can reduce waste at landfills. Knowing that tattering could be used and taught to others, the process was documented and a manual was created. Creating an updated clothing consumption model that identifies disposal channels where the value could be captured could inform interested person on how they can intervene and pull in perfectly good and interesting PCTW that can be redeployed. As previous research had shown constructing a man’s garment with tattering, the experimentation of creating women’s garments could be intertwined in the project.

A fondness for working with discarded materials because of their unusual characteristics, and experimenting with the tattering technique for women’s clothing was the original motivation for this project. But it was the vision of procurement of findings that could create a tattering manual for others to follow and updating the Winakor model to add to the knowledge of academic research that formed the motivation of this project.

Step 2: Analysis – Gathering Information

Jìa held a great deal of information about the process and outcome of tattering. Knit garments that have either a soft, thin hand with spandex or a jersey that can hold weight were ideal as the base layer. A fine gauge sweater knit that was breathable could also serve as a good base layer. Used knit garments and sweaters provide exceptional materials for tattering as most could be turned inside out to reveal seams and stitching when pilled or the outer surface was marred. Knit garments that are tattered together have an ample amount of stretch that allows many body types to fit the garment, as was shown when Jìa was worn in three fashion shows and
two photo sessions. Knit fabrics that have an altered surface, with pilling or stains provided creative materials, as the fabrics could be turned inside out or the undesirable markings enhanced the design. Somewhat crude hand stitching on the surface with exposed stitches and knots had been used on Jîa, not only to secure layers of fabric together, but also to add texture as an element of the aesthetic.

**Step 3: Define- What will be Accomplished**

Creating dresses for this research constituted an ideal platform for tattering and expanding on tattering techniques. The silhouettes for women’s art-to-wear garments can be more experimental and flouncy than menswear, and a focus of this research was to create tattered women’s dresses. Photographs, illustrations, and steps of assembly created the information that was organized to create a manual that others could follow to redeploy PCTW into new garments. The culminating point was to identify where disposed garments were received and how they were re-acquired. These disposal methods will become part of a new clothing consumption model.

**Step 4: Ideation – Alternate Ways to Achieve Goals**

This creative project had many choices that had to be addressed and mulled over to visualize a path to achieve the goals. An initial thought is whether to make one dress at a time, so that what is learned can be reviewed and applied to the next dress, or make all three dresses at once. What was learned from previously tattering a man’s top that could be applied to women’s dresses and what would need a different approach?

The next concern was seeking out the qualities necessary for the under layer in terms of stretchability, imagining that a somewhat stretchy garment may not hold the weight of added
fabrics, but a garment with little spandex or was made by mechanical stretch knitting methods may not slip off and on the body easily, so what stretch and fabric(s) are ideal?

Would it be necessary to preplan colors and textures of the discarded garments or would it be best to see what is available in sufficient quantity?

The question comes up of where to find garments? The choices are many: garage sales, consignment shops, unused garments of friends and families, thrift shops, want ads requesting unused goods, and sorting facilities. Another consideration was whether garments were chosen as the process progresses or there was preplanning with garment placement decided and garments pinned in place, front and back? The first idea would be to decide each garment addition as the process moves along, in a “tatter as you go” method and the other would be to complete placement front and back, take pictures, then try another placement and take pictures. Five times of different juxtapositions and photographs that could be chosen from would be an initial suggested number of times.

Another consideration was how to document the process of choosing garments, deciding juxtapositions, recording the process, and showing visuals of the final garments. The choices were photographs, drawings, creation of computer illustrations, and keeping written details of thoughts.

**Step 5: Selection- Picking the Method to Reach Goal**

Combinations of similar colors of sweaters and jersey knit tops and dresses provided mental connections or rejections of combinations of textures and colors for the garment. The researcher’s experience in clothing design and creativity was applied in analyzing these processes.
The process of the creation of Jîa was trial and error, and no plans had been made where each used garment would lie within the juxtaposition, but garments were added in as the researcher draped. Garments were sometimes extracted and moved, even after tattering, if it did not suit the researcher’s aesthetic. Jîa took almost 200 hours to complete and was a considerable amount of trial and error and experimentation. Jîa’s success came from using a knit with a small percentage of stretch fibers as a base layer and tattering knit garments to the surface of the base layer.

Jîa was an interesting garment that has attracted favorable attention from many, and was constructed using patternmaking and draping techniques to fit a size 42 man’s form. The ReFashioned goods that are for sale on Junky Styling and TRAID Remade websites show that recycling for women’s wear as well as men’s wear is popular, and that tattering for women’s markets should be researched and documented. As this research was done at the researcher’s studio, and only a women’s form was available, the focus was only on documenting the process of tattering women’s dresses.

The process needed to be simplified and organized to cut the time used to make future garments. It was decided that preplanning which fabrics would be used, and where they would lie within the garments needed to be established before any tattering began. Pinning the garments on the front and back of a dress form, would give a final “map” of the fabric, color and texture layout. And before that could begin, the possibilities for the base layer needed to be reviewed, photographed and selected.
Collecting the Garments

The professional viewpoint of the researcher, who has worked in the industry in developing textile prints and solid colors of fabrics in clothing consumer goods, was applied, as the aesthetic view of designers was an application of importance from the literature review.

Photography Concerns and Preparation

It was decided to record steps using photography. In preparation for taking photographs, a personal camera was tested on garment samplings: several garments were laid on a white sheet on a floor and also worn on a dress form. By analyzing the photos in the computer, it was decided that a better camera and lighting set up was required, as color showed differently when photographed on the sheet when compared to the image on the dress form. Having the color appearing the same from photograph to photograph seemed an important consideration for professionally assembled instructions on the steps of tattering. A photo area was set up near a window to allow natural light and the area also had overhead cool white fluorescent lighting. A white sheet served as a backdrop, and a size 8 Wolf leg form was decided on as the standard for the pictures. A professional camera, Nikon D700 was borrowed, and garment testing was done. As the Nikon only takes pictures in camera raw format, software was obtained online to convert that format to .jpg, as all sizing and cropping was done in Adobe Photoshop CS6. Test pictures were taken and after several adjustments to shutter speed, the camera was to be used throughout the entire process on slow shutter speed, without flash, as the colors seemed to maintain consistent integrity.
**Planning**

1) For individual garments that were under consideration, see Appendix C. Some garments were discarded if there was a foul odor.

2) As garment combinations were decided, color groups became the focus for each dress; Garment colors that sought out were pinks, reds, darker purples, and teals. The final garments were 1) pinks, 2) reds, and 3) purples and teals. The collection was based on interesting surfaces and textures, and the tempering of the aesthetic, as fabrics were tattered together. It was noted that colors meld in harmonious juxtapositions if there were blue undertones to the colors. The researcher applied her sense of aesthetic to choosing fabrics according to texture and color. Others who will use this research as a guide should be guided by their own sense of aesthetic in choosing and joining fabrics. See Appendix D for examples of accepted and rejected fabric juxtapositions.

3) A base layer was chosen from the group of garments assembled for each dress. Garments were tried on the form and a silhouette could be created from a single garment or combination of two. As the tattering layer cuts holes through the layers other than the base layer, the base layer ultimately served as a modesty layer, as well as, a sturdy base to attach the tattering layer to. See Appendix E for the base layer possibilities and final choices.

4) Concerning garment juxtaposed arrangements: the final garment selection was draped over the chosen base layer, and rearranged several times. Photographs were taken of the front and back of five variations, and one variation was chosen; again it was the eye and discretion of the researcher using creative foresight to imagine the final garment. See Appendix F for the juxtapositions and final choices.
5) A sampling of tattering steps during process was shown and can be seen in Appendix G.

6) Photographs of the front and back views of the three finished dresses are shown in Appendix H.

7) The steps were illustrated, in vector drawing with captions and in photographs in the appendix. Rather than repeat similar steps multiple times in the illustrative documents, the researcher assumed the reader had gained knowledge and could imagine how some treatments were achieved. The vector drawings were assembled into a manual to be published as a textbook for workshops. See Appendices I, K, L, and M.

8) Photographs were taken of the individual garments on a dress form to show the selected individual garments and garment combinations. Some of the chosen garments were turned inside out to show seams and stitches during in the tattering process. During base layer selection and the process of draping the garments over the base layer, some garments did not make the cut into the final garment, simply because there were an ample number of garments to complete the dress. Those rejected garments were saved, and could be substituted for another garment if a certain garment does not behave well in the tattering process or if the dress needed more material. This information can be seen visually in Appendices C, D, E, and F.

9) Three tattered garments were made from discarded sweaters and knit garments for this research. The researcher was interested in similarities between garment processes. Some were too complicated or produced less than expected aesthetics and were discarded. The researcher reported the results of the most successful treatments. The steps were stated in the results section for each of the three dresses. Notes and photographs were taken and
vector illustrations were created in order to share the processes with readers. See Appendices G, H, I, J, K, L, and M.

**Step 6: Implementation - Putting Plan into Action**

*Collecting Garments*

1. There was one pink garment in the researcher’s collection of used garments. A swatch card was taken along on a shopping trip to the three Goodwill stores to assess color compatibility. A swatch card was made by cutting approximately 2 inches of a sleeve end seam of each garment and was stapled to a card. The swatch card was used to find cohesive colors. Once a usable color was spotted, the fibers and texture was considered before putting it in the shopping cart. After the garments were chosen, they were laid out on a table in the back of the Goodwill, and rearranged several times to find which garments worked well with each other and with the swatch card fabrics. After each purchase, samples were cut, and added to the card. Goodwill resale stores organize their selections in a way that they had a separate area for sweaters and another for knit tops, and the racks are organized by color, making it easy to do research as to what was available in the way of textures and colors.

2. Seven pink garments were collected, but the colors and textures did not seem cohesive. It was noted that no matter what the depth of hue or tint of a pink garment, that if it had a blue undertone, that combinations were easier formed than other colors of undertones. The selections showed plentiful silk, cashmere, and other luxury fibers.

3. It had been noticed that the selections of purple were plentiful. Purples were beautiful and the color range of mid-tone to darker seemed appealing. However, after considerable
analyzing, experience suggested that juxtapositions of purples would not be successful in
tattering, as the fabrics might blend so the tattering would not be distinguished easily. It
was decided that purple garments could be worked with turquoise/teal garments, but the
examination of bright bluish turquoise with the purple seemed to have the potential of
becoming a garish combination. It was possible that either mid-tone greenish teals or
bluish teals would work well with purples to provide a sophisticated aesthetic.

4. The next group that seemed appealing was reds. Reds can range from orange reds to
lipstick red to deep cardinal reds, and the diversity was not easy to match in
combinations. In the red selection, there were beautiful textiles, textures, and colors.
Many red cotton garments that had lost some of their color from laundering were
available and appeared sickly when put next to a saturated red garments. The washed out
reds were not included in this project, but could be considered for a future tattering
project. This researcher chose not to use them for this dress.

5. Another consideration when considering the garments was imaging that the three
garments created for this project would complement each other and make a nice
statement as three dresses on forms, side by side.

6. Friends and family were asked to look though their clothing for these colors in knits and
sweaters, and donations were accepted, and the researcher also had a few garments to
add. An ad on FreeCycle requesting the same provided a few more items.

7. The decision for the three color choices was finalized: 1) pink, 2) red, and 3) purple with
teal.

8. The end result was a collection of fourteen pink garments, twelve red garments, and nine
garments for the purple and teal combination. See Appendix C.
Preparing Garments

1. After quickly examining the garments, there were a few stains and tears. The garments were examined for smell. Thirty-four of the garments were washed as they had a stale smell and there were no worries about distorting or shrinking, as those qualities might possibly make them more interesting in combination with other textures. The garments were divided into color similar groups, knowing that if any garment was to pill and pull in fiber from other garments to their surface, that it would be a welcome addition and not need to be picked off. The garments were washed on regular cold cycle with a half tablespoon of regular liquid Tide, with a cold rinse. The garments were dried in a warm heat electric drier until damp. They were hung on hangers, to allow them to dry without wrinkles in this last stage, to be more presentable for photographs. It was thought that machine washing would distort the angora sweater, so it was hung outside to freshen in air.

2. When the garments were completely dry, each was put on the dress form and photographed. It was noticed during this process, that all garments were interesting enough to use turned inside out.

3. A thread spool of hot pink, one of baby pink, one of teal, a grape purple, one cardinal red, and one deep wine spool of thread were chosen by finding the most versatile matches using the swatch cards.

Selecting Garments

Choosing which garments would suit this project was achieved by laying fabrics next to each other, and sensing how the fabrics would tatter, and how the colors and textured would meld aesthetically. This process can be seen as one might see a painter or sculptor putting their
sense of aesthetic into their work. The researcher used a testing system of holding two fabrics next to each other and visually it was either pass or fail. If it was a pass, those two fabrics were pinned in place and another available fabric could be waved over these two fabrics to see if there was a pleasing result with them.

**Individual Garments**

Fourteen garments were chosen as possibilities to be used for the pink dress. Twelve garments were chosen for the red dress. Nine garments were chosen for the purple and teal dress, with six teals and three purples. These garments were chosen for having interesting textures both on the right and wrong side of the garments. It has been noted that the color and texture of a particular garment may be more appealing next to another garment if turned inside out. The serged seams can bring an extra element of interest to the garment. The number of garments collected was based on knowing that seven garments had been tattered to make Jía, which was made on a men’s size 42 form. The researcher relied on the assumption that making dresses on a size 8 dress from would take approximately the same amount of material. If more garments were needed, more could be easily acquired. Photographs of the garments can be seen in Appendix C.

**Garment Combinations**

It was noted that fiber content was not a concern for tattering ability, so any fiber or combination of fibers could be included. All garments, except one, were machine washed in cold water and dried, with some garments shrinking, or became longer or wider, and this did not matter; this only accentuated the aesthetic by acquiring more texture. Fibers in these garments included cotton, nylon, polyester, acetate, acrylic, linen, silk, wool, cashmere, angora, and
spandex. Closures were another component that could be engaged into the aesthetic of the final three dresses. This assortment of garments included mother of pearl buttons, plastic buttons, metal buttons, metal snaps, plastic snaps, a metal teeth zipper, and a plastic teeth zipper.

**Garment Arrangements**

Garments were draped and pinned in various positions and combinations on the form over the base layer, which can be seen in Appendix F. In each color group there were certain garments that were the “stars” and would definitely be used. “Stars” were garments that on their own were especially appealing to the researcher because of the color, texture, style lines, inner goings-on, closures, and/or trims, and that they defined the aesthetic. The “star” for the pink dress was the angora sweater; for the red dress, it was an orange-red hooded sweater with grey trim and a dark red nubby sweater; for the purple and teal dress, it was a cotton purple pointelle dolman sleeve sweater, a teal silk sweater, and a teal sweater knitted loosely from ribbons. The pink angora sweater and the teal silk sweater were a matter of working with a luxury fiber, and both had a very soft, pliable hand. The purple dolman sleeved sweater had a light-hearted, feminine texture, and the dark red nubby sweater was a gorgeous color. The teal ribbon sweater had many broken ribbons that frayed in the wash and the color was mottled, which was an ingredient to the aesthetic to be achieved. The orange-red hooded sweater was an anomaly in being a sure choice, in fact it was chosen because there would be a challenge to unify it with other red textiles.

Garment arrangements were done first for the pink group, then the red group, then the purple and teal group, so the following refers to analyzing one color group at a time. A “star” garment was first pinned to the form over the base layer, in the front bodice area. Next, another
garment was randomly picked and held to one side of the pinned garment. If it was a pleasing juxtaposition, then it was draped and pinned next to the first fabric. If it was not acceptable, it was set aside and another garment was tested to determine if it was set aside or pinned to the form. This method proceeded, loosely covering the form in the front and back bodice, skirt, and sleeve area. When one combination was completed, photographs were taken of the front and back. Next was to take all the garments off the form, leaving the base layer and moving though the motion of pinning on a garment, this time it does not have to be a “star” garment, but it could be, and moving through the motions described before until there is coverage and photographs are taken. This was done five times for each color group, each time including the “star” garments somewhere in either the front or back. This step was exploratory and there were no rules; the garments were pinned horizontally or cross-body, or allowed to hang vertically from one pin. Photographs can be seen in Appendix F.

Garments were arranged and pinned on the form as it was chosen for both the front and back. If the base garment was created by sewing two garments together, that assemblage occurred first. The tattering process connected all the garments to create the new garment. If there was not enough material to complete the garment, the process will return to the analysis phase.

As the tattering process involved cutting into the fabric, where holes would expose the skin, it was advisable to have a base layer that will not get cut, but provided a modesty layer. Garments were experimented with on the dress form to find the right garment(s) to use for the base layer.
**Tattering Process**

Tattering was done, by making a row of cuts next to the edge of two garments, whether intact as the garment or cut apart and laid flat. Overlap the cut edges and align the cut areas. Pull the end “loop” of fabric from the bottom garment up though the slash of the top garment. Do the same with the next loop and slash, you can begin to crochet them together by looping one though the next. You continue down the slashed area, joining the fabrics together. See Appendix K for detailed step-by-step illustrations.

While the garments were pinned to the form, they could be cut open, so the garment becomes essentially a flat piece of textile, and tattering was used to connect two textiles together. See Appendix L for detailed step-by-step illustrations.

If a garment was not cut apart to become a flat piece of textile, but has been pulled over the top of the form, an area can be pinched between fingers and slashed. See Appendix M.

**PINK DRESS**

For the pink #1 base layer (see Appendix E, figure 39) that was considered was a light pink nylon top with beading on net at the shoulder and front neckline that could be sewn to a raspberry cotton sweater, using the India Flint sweater dress method from the literature review. #2 base layer choice (figure 40) was a mixed fiber sweater combined à la Flint with an oversized distorted cotton t-shirt. Photographs were taken. See Appendix E

After viewing the pictures, #2 base layer was chosen was chosen. The raspberry sweater was soft, and t-shirt was large in circumference, and could be gathered to the top, allowing freedom of movement in the skirt area.
Step 1) The sweater and t-shirt were hand stitched together using baby pink thread to create the base layer. Cut across shoulder seams and down top of the sleeves to create an opening to be a skirt. Also see Appendix G (figure 60) and Appendix I (figure 67, Pink step 1)

The remaining selection of pink garments was draped in various ways over the base layer in consideration for the tattering layer. Five different juxtapositions these fabrics are arranged and photographs are taken, front and back. See Appendix F (figures 44, 45, 46, 47, and 48)

#5 tattering layer (figure 48) was chosen with these observations and thoughts:

- Had balance
- Color was distributed in a pleasing manner
- Textures of textile juxtaposition complemented one another
- Vertical lines of textiles create height
- Sophisticated feel
- Sleeves hanging at hemline could be tattered or left as is for interested hem edge

**Tattering the Pink Garments to the Base Layer**

See Appendix I (figure 67) for following steps 2-15.

Step 1) Start with a threaded needle that has a doubled thread that is approximately twenty four inches long when doubled; do not knot the end. Begin with the hot pink thread, and when that runs out, switch to the baby pink thread. Repeat this hot pink/ baby pink, back to hot pink switch off as the hand stitching occurs in the pink dress.

Step 2) Place the wool sweater upside down over base layer, aligning waist areas and pin in place. Cut across shoulder seams and down top of the sleeves to create an opening to be a skirt.
Step 3) Pull the angora sweater on the form as a person would wear a top. Pull the sleeves of the base layer shirt through the sleeves of the angora sweater.

Step 4) Cut open the shoulder seams and top of sleeves of the draped neck top and pull it over the top of the form. This garment goes on upside down. Align the waist areas and pin to form.

Step 5) Next, pull the sleeves on the right side through the left side sleeve of the big button cardigan, and let the rest of that cardigan hang down at the side, distributing excess somewhat equally to front and back.

Step 6) Referring to steps of tattering, begin folding back the edge of the cardigan on the front side of the dress form approximately two to two and one half inches. Starting four inches below the shoulder seam, make one cut one and one half inches long. Then move down one and one half inches, and make another cut of the same length. Continue this step down to the bottom edge. Open that section flat to inspect, and you will now have a row of slashes.

Step 7) This step was the preparation for a row of slashes that will be cut below the previous step’s row of slashes. Pin mark the edge of the cardigan then roll the cardigan edge back two inches.

Step 8) Starting at the pinned edge, pinch areas of only the top layers of the angora sweater and draped top between your fingers (see Appendix M), and make one and one half inch slashes with scissors. Ideally these slashes are cut at what would be the center between cuts of the cardigan cuts. The new slashes that were being cut starting at pin line and end in the direction of the right side seam. Count the number of slashes in the cardigan,
and cut the same number in the angora sweater and draped top and cut one extra at the top.

**Step 9)** Refer to the steps of tattering in Appendix G (figure 59) and Appendix K (figure 69). Working your way from the top down, pull the loops from angora sweater through the slashes of the cardigan, down to the skirt area, where you will pull the loops of the draped top through the cardigan. Secure the last loops with loosely sewn doubled thread from a hand needle, leaving one half-inch thread tails. Cut open the side of the right cardigan and angora sweater sleeve from bottom edge up ten inches. Make three rows of slashes in this front bottom ten-inch area of the sleeve in the cardigan only; slashes are one and one half inches long and one and one half inches apart. Tuck the angora sweater into the wool sweater at the waist and cut slashes in the wool sweater and the angora sweater horizontally along the center waist area simultaneously. Cut slashes through the draped top and wool sweater on the left side. Cut three rows horizontally.

**Step 10)** Tatter at the waist, pulling the angora loops through the wool slashes. Start at the right, moving left, and hand stitching the last loop in place. Tatter the three vertical rows on the right side skirt, pulling the wool sweater loops through the draped top slashes. Start at the top, and work down, hand stitching each final loop in place. Tatter the three rows of vertical slashes on the right sleeve, only working with the cardigan. Start at the top and work down, anchoring the final loops with hand stitching. This was more decorative tattering when it was tattered to itself, rather than conjoining garments. Stretch out the bottom edge of the angora sleeve on that side. Cut three rows of slashes in the left side base layer hanging sleeve; slashes are one and one half inches long and
Cut a row of slashes in the right side hanging draped top sleeve; slashes are one and one half inches long and one and one half inches apart. Create long slashes in the angora sweater from the waist up, following the pattern in the knit; slashes are one and one half inches long and one and one half inches apart. There will be seventeen slashes in total. Use longer slashes in the center, and grade to shorter ones towards the side. Hand stitch rows of running stitches along the slashes, joining the angora to the base layer t-shirt. It was the base layer t-shirt that was peeking through the angora slashes. Stitch one half inch to one inch beyond the end of each slash, ending with several loops of securing thread, and when the thread is cut, leave one half inch tails. Slash the angora sweater near the neck in two places, also anchoring with running stitches. Keep the slashes a distance from the bust area to avoid a vulgar looking garment.

Step 11) Tatter the rows of both hanging shirtsleeves, along each row, only to itself.

Step 12) It was time to work on the back of the dress. Pin the neckline of the bubblegum colored cardigan at the waist, but covering the angora. Smooth the cardigan until it is pinned over to each side seam.

Step 13) Cut outer edge of left angora sweater sleeve open ten inches from hem edge up. Cut along the right side sleeve seam up to the armhole of the bubble gum color cardigan. Cut twelve slashes that are one and one half inches long and one and one half inches apart. Starting at the bottom edge of the front of the bubblegum cardigan, then cut eleven slashes that are one and one half inches long and one and one half inches apart across the area pinned to the form, and cut fourteen slashes that are one and one half inches long and one and one half inches apart down the other front. When making the
vertical cuts on the left side, also cut slashes in the draped top. When cutting the
slashes on the right side, also cut slashes in the cardigan draped over the right sleeve.
Continue those slashes up the cardigan, also cut fifteen slashes one and one half inches
long and one and one half inches apart in the angora. In the area above the waist, cut
five long slashes five to six inches long and two and seven eights of an inch apart in
the angora, at an angle pointing down at the center. Secure with running stitches and
loops at the ends, as was done on the front. There can be many slashes on the back, as
it was flat.

Step 14) Cut eight vertical slashes five to six inches long and one and seven eights of an inch
apart in the angora below the waist, anchoring with running stitch, and tie offs at the
ends. Tatter the cardigan draped over the right sleeve, starting at the top and working
down, pulling the loops of the angora through the slashes of the cardigan. At the waist
and below, pull the loops of the bubblegum cardigan through and continue to the
bottom, using thread to anchor. Tatter the left side of the skirt area, pulling the draped
top loops through the slashes of the bubblegum cardigan. Begin this row and the top,
working down, securing at the last loop. Fold the bubblegum cardigan sleeve that has
been cut open up to the waist area, pulling the sleeve hem to the left waist side. Cut
three horizontal rows of eleven slashes per row though the cardigan, cutting three
rows deep on the top row, also cutting slashes in the angora; the slashes were one and
one half inches long and one and one half inches apart. On the middle row, also cut a
row of eleven slashes into the draped top, and cut eleven slashes on the bottom row,
just cutting only the bubblegum cardigan, with the slashes being one and one half
inches long and one and one half inches apart.
Step 15) Tatter the waist area, pulling the angora through the bubblegum cardigan on the top row, then pulling the draped top through the bubblegum cardigan on the middle row, then tatter the bottom row to itself. Start from the right and work left on all, securing end with hand stitching. Cut two 3/8” by twenty inch strips from the sleeve of the wool sweater. Using a running stitch, start at one end of a strips going to the other end, and pull the thread to gather slightly. Sew that strip to the garment through all layers, starting just over the front left shoulder and ending eight inches down the back. Secure ends. Add the other slightly gathered wool strip, starting on the back, going over the armhole seam onto the left sleeve. Complete length of each strip was eight inches.

The first tatted garment was complete. See Appendix H (figure 64)

**RED DRESS**

For the red dress, there were two choices for the base layer (see Appendix E, figure 41 and 42). Choice 1 (figure 41) was soft, and the body hugging skirt seemed ideal for holding several layers in place. The one drawback was the wide neckline that had enough stretch to be pulled off the shoulder if too much weight was attached. Choice 2 (figure 42) had aesthetic drawbacks; the ruffle at the neck did not seem like an element to be included, mostly because it was a woven and would not tatter as well as a knit. The sweater dress that was to be used at the bottom of choice two was more desirable as a tattering garment because of the lines where fullness would emerge was a bonus texture. Choice 1 was selected as the base layer, and it was decided that the side neck would be pleated and gathered underneath the tattering and secured in place, making it a smaller neckline that would not fall off the shoulders.
Step 1) The base layer was slipped on the dress form and the fullness of the neck line was coaxed closer to the neck of the form so it would stay on the form. A few pins held this area in place. See Appendix I (figure 68, Red step 1)

The remaining selection of red garments was draped in various ways over the base layer in consideration for the tattering layer. Five different juxtapositions these fabrics are arranged and photographs are taken, front and back. See Appendix F (figures 49, 50, 51, 52, and 53)

#3 tattering layer was chosen with these observations and thoughts:

- The orange-red hoodie seemed a worthy opponent to make work as it was more orange than red with grey edge trim. All the other garments were clearly red. It was wondered if tattering would meld it more to the other textiles or the orange would not blend. It was wondered if the grey would serve as an interesting trim, as it was to be twisted and tacked down to look like flowers.
- Working a big tooth plastic grey zipper and a brass metal into the mix brought an interesting element of texture
- Exciting textures; garments were either ribbed or nubby
- Horizontal lines of textiles create height
- Combination of biker and sophistication aesthetic seemed possible
- There was much rhythm in the ribbing, the ruffles, and the seams of the inside out garment

Tattering the Red Garments to the Base Layer

See Appendix I (figure 68) for following steps 2-15

Step 1) Start with a threaded needle that has a doubled thread that is approximately twenty four inches long when doubled; leave unknotted. Begin with the cardinal thread and when
that runs out, switch to the deep wine thread. Repeat this cardinal/deep wine, back to cardinal switch off as the hand stitching occurs in the red dress.

Step 2) Pin the zip front sweater to the base layer at the right hip. This sweater was upside down, with the lower edge of the sweater pinned at waist level of form. Distribute the sweater with even amounts in the front and back. Three inches below the horizontal hip seam line, pin the upside down sleeveless turtleneck in place, with most of this garment towards the back.

Step 3) The textured sweater was turned inside out and upside down. It was then pinned to the right side of the front of the form, and wrapped under the right sleeve to the back. The sleeves will hang down. The sweater dress that had been considered for the base layer was pinned by the right sleeve hem at the left shoulder, and the entire dress was hanging.

Step 4) Turn the dress form and analyze the back and make sure all the sweaters that were wrapped from the front are secured with straight pins.

Step 5) Slip the orange-red hoodie over the form as if someone was wearing it, and push the short sleeves of the base layer into the hoodie sleeves. This helped to stabilize the hoodie to stay on the form while pinning the left side in place. Before pinning, flip the left front edge back at the neckline, and allow it to turn back less and less by smoothing the front towards the waist, having no turn back at waist. The large tooth grey plastic zipper shows at the front edge, adding texture. Concerning the right side of the hoodie, grab the lower corner where the zipper slide resides, and twist clockwise. Twist the front in circles four full times, and it will begin twisting onto itself into a wad. Pull the zipper slide corner up to the neck/shoulder seam and pin in place; the zipper teeth have twisted into interesting textures.
Step 6) Allow the hood to drape and smooth the hoodie back flat.

Step 7) Working on the back of the form, fold the long sleeve t-shirt in half lengthwise and pin to the back left shoulder, allowing the sleeves to hang down. On the right side, slip the cotton top with the ruffle trim over the long hoodie sleeve, pin in place and allow garment to hang as it falls.

Step 8) Push the neck of the ribbed sweater under the folded back edge and hood on the right side shoulder, allowing one sleeve to fall to the front and one to the back. Pin in place. The sweater is lying on top of the right sleeve, not enveloping it.

Step 9) Return to the textured sweater (#1 in the illustration) that was turned inside out and while still pinned to the form, cut at the center front, starting at the neckline and continue to the bottom edge. Cut open on both sides, starting at the bottom edges, up the side seams, and up the sleeves through the end of the sleeve. Cut a series of slashes around the outer perimeter, with each slash being one and one half inches long and one and one half inches apart. Move to the ribbed sweater (#2 in the illustration) that was hanging upside down and pinned at the right hip area. Cut the right sleeve and shoulder open, down the center. Cut open both side seams as in previous garment and cut a series of slashes around the outer perimeter, with each slash being one and one half inches long and one and one half inches apart. Return to the ribbed sweater that was pushed under the folded edge and hood on the right shoulder (#3 in the illustration) and cut it open and slash the perimeter as in the previous garments. Cut open and slash the sweater dress (#4 in the illustration) as was done to sweaters #2 and #3. Do not remove these garments as they were cut and slashed; these steps can be done without un-pinning.
Step 10) Working on the front and back of the garment as needed, overlap slashed edges of the four sweaters from step 9 (this method can be reviewed in Appendix L) and secure with straight pins. Return to the front of the form and slash the textured sweater, starting at the center front top edge and working up towards the shoulder, but stopping when at the hoodie edge. Since this sweater unravels easily when cut, start the slashes in three quarters of an inch from the edge, to allow a buffer to not rip the slash open. These slashes were one to one and a quarter inch wide and one and one half inches apart.

Repeat a row of slashes, one to one and a quarter inch wide and one and one half inches apart, just below the first row, starting one inch away from the first row, and alternating the placement of the slashes between and below the first slashes. Repeat rows of slashes four more times; alternate the placement of the slashes according to the row above it. (If slashes were cut end to end, they have more of a tendency to rip into each other during tattering.) Cut a row of horizontal slashes down the center front, starting one and one half inches from the top edge, continuing down twelve inches to the serged seam, which was exposed because this sweater was inside out. These center front slashes were one and one half inches wide and one and one half inches apart. Continue this row of slashes around the outer edge of this semi-circular exposed seam of the textured sweater, up to the edge of the hoodie and sweater dress. Return to the neck edge and create a row of slashes three quarters of an inch in from the edge starting at the left side neck/shoulder seam and angling down to the row of slashes at the center front. These slashes were one and one quarter inches long and one and a half inches apart. Create two more rows of slashes below this row, using same slash length and distance apart, alternating placement and on what is the third row on that side, continue down the front along the center five
inches. Begin tattering the textured sweater loops to themselves, starting at the right side neck/shoulder, and down the neck edge, then continue down the center front and follow the center most section of the armhole. When the tattering reaches the last loop, secure the loop with hand stitching, reaching the needle through the loop, the sweater, and the base layer, and loop the needle in and out several times, securing all layers together. Return to the slashes that start at the left neck/shoulder and tatter down that row and secure last loop at center front. Tatter the second row on the right side neckline, securing the last loop at center, again through all layers and especially to the base layer. Complete the other four rows of tattering on that side, securing the last loop of each row at the center, through all layers and to the base garment. Return to the left side neck and tatter the second row, securing the last loop with hand stitching. Tatter the third row and continue tattering the line of slashes down the center and secure last loop with hand stitching, through all layers, including the base layer. Return to remainder of exposed seam under left bust and tatter these loops to each other, starting at center of garment and moving left, securing the last loop in place with hand stitching, through all layers, including the base layer. Cut a row of slashes at the right side waist, each slash was one and one half inches long and one and one half inches apart. This row starts two inches to the left of center front and ends one inch from the side seam area. Create another row of slashes below this one, making them two inches apart, and alternating placement. Tatter the top row starting at the end closest to the center front and moving right. Secure last loop with hand stitching, through all layers, including the base layer. Repeat tattering of the row below this one, moving in the same direction and securing the last loop in the same manner. The overlapping, slashed edges that are tattered are: the bottom edge of
the textured sweater to the ribbed sweater with the loops of the ribbed sweater coming through the slashes in the textured sweater; the loops of the textured sweater come through the slashes on the sweater dress; the ribbed sweater tatters to itself to create an interesting detail into the hemline. Anytime that there are more slashes on one side than the other, it is fine to continue tattering the remaining loops to itself. There were many L-shaped edges that overlapped each other and tattered to create wonderful flares. A hand stitch secured the last loop in a row of tattering to all the layers, including the base layer. This allowed the garments to act as one garment, rather than many separating moving layers. Anytime the loop ends below the base layer, it was secured to all layers, allowing the hem of the dress to move freely. New rows of slashes were created that were one and one half inches wide and one and one half inches apart on sleeves, the right side of the hoodie, and the left side of the hoodie front. Slashes were created in the sweater that was draped over the left shoulder. These slashes were cut two and three deep, except for the right hoodie sleeve. Layers of slashes did not include the base layer, but every layer up to the base layer.

Step 11) Concerning all the available rows of slashes just created, reach through all the layers of openings and tatter by pulling the bottom layer of loop to the top to use as the crochet, and work down all rows, until the last loop can be secured using hand stitching. It was during this step that it was thought that the skirt portion of the front needed more fullness and that it did not have the desired extreme length differences, with the left side being mid-thigh and the left side being mid-calf. Using the seven universal stages of creative problem solving allowed the return to #5 selection/ garment arrangements step to find a possible alternative plan to achieve the aesthetic. Several of the remaining
garments were held up to the area to get a sense of what might work. A large red sweater clearly stood out as the answer to the problem because of the color and ample amount of fabric. Moving to step #6 implementation, the garments were pinned in place, then cut open down the top of one sleeve and shoulder, and up both sides and sleeves. All edges were slashed one and one half inches apart and one and one half inches long. The new addition was draped until the shape was appealing and pinned to adjoining fabric. Whichever fabric edges it was pinned to had rows of slashes cut into them, one and one half inches wide and one and one half inches apart. The edges were overlapped and tattered, finishing with hand stitching the last loop securely in place,

Step 12) Return to working on the back and start with the top with ruffled trim that is pulled over the right sleeve by cutting open the side and sleeve at the underarm seam that was draping at the center back. The center front and underarm/sleeve seams of the top were cut open, draping over the left shoulder. The side seams of the sleeveless turtleneck top were also cut open. Overlap slashed edges and tatter, securing with hand stitching through all layers, securing to base layer when possible. Cut three rows of horizontal slashes across the top with ruffle trim, one at shoulder level, then the second three inches down, and the third was three inches down from the second. Also cut slashes in the hoodie that was below it. Tatter by pulling the hoodie loops through the top with ruffle trim holes, and secure last loop with hand stitching by sewing together through all layers.

Step 13) Lifting the hood in the back, cut a horizontal row of thirteen slashes in the hoodie only and tatter to themselves. Secure last loop to base garments. Move to the next loop and secure it to the base layer. Secure each loop individually to the base layer with hand
stitching that shows the thread tails. This was a stress point that much of the weight of the added garments hung from, so these stitches assured the weight was being held securely.

Step 14 and Step 15) The grey zipper, grey trim, and hood was folded back or hidden with cut pieces of red fabric, and it was decided that all grey would be cut away as it was a distraction. This included the center front edge with zipper, the ribbing at the bottom of the sleeves and bottom edge of body, and most of the hood. The hood was cut away, leaving two inches of fabric above the neck seam.

The second tattered garment is complete. See Appendix H (figure 65)

**PURPLE AND TEAL DRESS**

For the purple and teal base layer, there was one garment that fit all the criteria and no other choice was considered. Photographs were taken. See Appendix E (figure 43)

The base layer that was chosen was a soft rayon/spandex dress. Because it was only the darker purple that was desired for use, the ties at the waist and the black and lavender bands at the bottom of the skirt were cut away. There was an extra panel of fabric in the skirt area front that connected into the right side seam that was also cut away, as it served no purpose and added weight and bulk to the garment.

Step 1) The purple dress was slipped on the dress form and components mentioned above were cut away.

The remaining selection of purple and teal garments was draped in various ways over the base layer in consideration for the tattering layer. Five different juxtapositions these fabrics are
arranged and photographs are taken, front and back. See Appendix F (figure 54, 55, 56, 57, and 58)

#4 tattering layer (figure 57) was chosen with these observations and thoughts:

- Large knit ribbon sweater was a splendid focal point
- Colors were distributed in a pleasing manner
- Textures of textile juxtaposition provided the desired aesthetic
- Eye was drawn to horizontal lines and contrasting light and dark colors that created height
- Playful, yet sophisticated feel
- Placement of colors reminiscent of stained glass

Tatterning the Purple and Teal Garments to the Base Layer

No illustration were included due repetitive actions that can be observed in Appendix I pink and red dress steps- refer to Appendix G (figure 63) and Appendix H (figure 66)

Step 1) Start with a threaded needle with doubled thread that was approximately twenty four inches long when doubled, and do not tie a knot the end. Begin with the teal thread, and when that ran out, switch to the grape thread. Repeat this teal/ grape, back to teal switch off as the hand stitching occurs in the purple and teal dress.

Step 2) All garments were pinned to the base layer.

Step 3) For all garments except the ribbon sweater- cut center front open, then cut up all side and underarm seams. Cut slashes on all edges, including the center fronts, that were one and one half inches wide and one and one half apart.

Step 4) Drape the fabrics, still pinned to the form, and experiment with overlapping slashed edges to create textures and a silhouette that is esthetically pleasing.
Step 5) Tatter all the slashed edges by pulling the lower layer of fabric through the slashes of the top layer, tattering to the end, and securing with last loop with hand stitches, leaving one half inch thread tails. Always sew through as many layers as possible, especially the base layer when available to create the structure of the garment. When the last loop needs to be secured in an area that was below the base layer, hand stitch it to the garment it lays on, and to other layers only when it does not hinder the opening of the skirt or sleeve.

Step 6) Cut a row of slashes that were one and one half inches wide and one and one half inches apart in the ribbing on the bottom edge of the ribbon sweater. Cut twenty-seven slashes in the front and twenty-seven slashes in the back. Starting cuts one inch from edge as the ribbon sweater unravels easily and care should be taken not to cut the slashes close to the edge, or to stretch and pull too much while tattering. This area was located just under the bust in the front and drapes down to almost hip level in the back. To cut each slash, pinch the fabric between your fingers (review Appendix M), and also including in each pinch, the second and sometimes third layer of fabric, but not the base layer, that were below the ribbon sweater.

Step 7) Tatter these slashes and loops around the body, pulling up the fabric loops through the slashes in the sweater. Whenever there are two loops below the slash, treat them as one. Secure the last loop with hand stitching, leaving half inch thread tails, and sewing through all layers, including base layer.

Step 8) Repeat this action of sewing through loops and all layers including base layer, by sewing every other loop. Each one should be sewn and tied off individually. This allows the dress to expand as it is put on and taken off, as opposed to moving from loop to loop.
with the same piece of thread and creating the possibility of the thread breaking when the dress is put on.

Step 9) When looking the deep V of the dress back, it seemed to need more ornamentation.

Using the seven universal stages of creative problem solving allowed the return to step #5 selection/ garment arrangements step to find a possible alternative plan to achieve the aesthetic; it was thought that additional texture/ color should be added in. Several of the remaining garments and the cut off skirt panel from the base layer were held up to the area to get a sense of what might work. The cut away panel of the base layer was soft and draped into ruffles nicely and was chosen. The dark purple rayon knit against the teal ribbon sweater was a pretty contrast.

Step 10) Moving on to step #6 implementation, the purple knit was cut into two ten inch by twenty seven inch strips, and one piece of purple knit was pinned under the ribbing on the left side, seven inches exposed. This piece started at the waist and was smoothed up. The second piece of purple fabric was pinned to the right side of the ribbing, starting ten inches up from the waist, and smoothed up to the shoulder seams. This piece lies on top of the ribbing, with one inch extending left into the V area.

Step 11) Slashes were cut along one long edge of the left side of V in the ribbing area of the ribbon sweater and the purple knit, one inch in from the edge, using the pinch method to slash them together. Seventeen slashes were cut that were one and one half inches wide and one and one half inches apart. Tatter ing was performed by pulling the purple loops though the holes in the ribbon sweater and this ended seven inches from the shoulder/ neck intersection. The last loop was secured with needle and thread. The remaining one
and one half inches of the purple that was not tattered in was not cut away and left to hang.

Step 12) Measure up ten inches along the right side in the band along the V and begin cutting a row of seventeen slashes that are one and one half inches wide and one and one half inches apart up to the shoulder seam. Use the pinch method to cut the purple knit and teal ribbon sweater slashes together. This time the tattering was the teal loops being pulled through the purple knit. Secure the last loop with threaded needle through all layers.

Step 13) The teal ribbon sweater should be hand stitched to the base layer at three inch intervals up the back edges of the V to secure it. Sew each tacking separately and allow one-inch thread ends to be exposed.

Step 14) The teal ribbon sweater should be tacked down the v-neck front of the base layer at three inch intervals, allowing three quarter inch thread tails to be exposed.

The third and final tattered garment was complete. See Appendix H (figure 66)

Step 7: Evaluation

Producer Evaluation

The researcher was very visually pleased with the pink dress, as the final result of the juxtaposition of the fabrics was appealing. The end result was not as youthful as anticipated. The gaping slices in the angora sweater seemed sacrilege to what was once a luxury garments.

The red dress, while currently the researcher’s favorite, came very close to not succeeding aesthetically, when the grey stripes and zipper were still intact. The grey gave it a costume-y feel. The aesthetic was achieved once the grey was cut away. It was elegant, and had
the interesting surprise of the brass zipper at the hem. The wide range of reds and the orange-red sweater, the turning inside out of several garments, and many textures formed an exquisite piece.

The purple and teal dress is exquisite and perfect and would be worn easily to an opening at the Met. The dresses may be a little heavy to wear, and putting them on for wear was a little tricky because of getting caught in the slashes. They were a challenge to wear as they get caught on chair arms and table corners when moving around the room.

The researcher was satisfied with all three garments and feels they are a cohesive group visually. Creating a woman’s garment using tattering came as a natural progression to experimenting with this technique as it served to pull the garment closer to the body to give the garment more shape. Mostly tattering the women’s dresses used all the techniques of the men’s garment, as the same kinds of fabrics, sweaters and t-shirts were used. However, choosing colors was the difference in that the researcher would probably not choose any of these three color combinations for a man’s garment. And it is thought that using the browns, greens, and darker colors for the men’s garments helped it seem more masculine.

The researcher was content with the new clothing consumption model, as it reflected the researcher’s interest in re-visioning and tattering clothing as a way to divert textiles from landfills. This model shows examples of where to obtain garments for recycling projects.

The information gathered was written out and the illustrations that were made into a manual could be followed to upcycle old clothes that might otherwise go to the landfill. It is the process of the technique that is fascinating to others, as it was to fashion design students who participated in a workshop to learn how to reuse textiles, and will be available now to be used by many others.
External Evaluation of Garments

The researcher sent pictures to a few friends, and showed the garment on a dress form to a colleague. Two friends, who know nothing about how clothes are made, noticed the crochet and shared sweet stories of their grandmothers knitting and crocheting matching dresses for themselves and their dolls.

The pink dress acquired the name “Deconstructed Darling”, the red was named the “Tatter Queen” and the purple and teal dress was called “Every Woman her own Clothes Doctor” and were submitted for jurying by professionals. Acceptance meant the garments would be displayed at the 2013 ITAA conference. All three dresses (Appendix N) were not selected for inclusion in the Design Exhibition. The stated reason was that there was a very enthusiastic response to the Call for Design Entries with 364 valid design submissions; the selection was extremely competitive because of size limitations for the Design Exhibit. Only the designs ranked the highest by 2 (for the Undergraduate Students and Graduate Students) or 3 (Professional category) independent reviewers were selected: 36 designs for the mounted exhibit and 104 designs for the live gallery exhibit, with a total acceptance rate of 38.5%.

Each abstract with associated images was reviewed by a double-blind jury and was evaluated on: (1) Aesthetics and visual impact; (2) Implementation of purpose or process; (3) Quality of Technique and execution; (4) Innovation of design; (5) Quality of abstract; and (6) Images showing detail against a plain background. Acceptance or rejection for the ITAA Design Exhibition was based on the jury’s scores. As this garment was entered as a graduate student design, ITAA professional members juried it.

The majority of the public may not accept tattered garments. It is uncertain whether women will wear bulky recycled clothing that will not show off their shape. It has been noticed
that the male models that wore Jīa in fashion shows have looked very handsome and do not mind the extra bulk and texture. Jīa was created with the terra-cotta warriors from third century China in mind, and this contemporary version reminds one of the stone armor worn during that time. Men have very much admired Jīa. While tattering creates textures that sometimes look like the contemporary fabrics that have three-dimensional flowers sewn to them, it may not be desired by women to have bulk added to their body.

Wearing used garments does not appeal to everyone as some do not think it is hygienic to wear strangers’ clothing and many might think that a thick tattered garment makes one seem unkempt, disheveled, and mentally unhealthy. A member of the researcher’s family has said that Jīa reminded them of a bum lying on a sidewalk. However, the researcher believes there is an audience for the tattered clothing, and has appointments to show the three dresses to upscale boutiques.

External Evaluation of Manual

Eleven senior students enrolled in a fashion design Bachelor of Art degree participated in the trial to see if the manual’s instructions were clear and that tattering a garment could be achieved by following the text and illustrations. The students were given individual copies of the manual and asked to read them, and from a discussion that followed, the researcher believes the manual had value for re-visioning textiles that might otherwise go to landfill. A lecture was presented to these students and the three dresses on dress forms were present and the students spent time investigating the tattered rows and turning back the tattering layer to see the base layer.

The students were shown a table that had forty-three recently washed t-shirts and sweaters neatly spread out, and asked to pick only three; one for the base and two for the
tattering to make a top. Size 8 dress forms were provided, as well as straight pins, hand needles, and thread. Most had brought their own scissors as instructed, but scissors were also provided and used. Students were told they could work in pairs if they wished, and there were two groups of two and seven worked on their own. All just happened to be female, and were between the ages of twenty-one and thirty-nine.

The researcher wandered the room, mostly answering questions, and talking some students through their first row of tattering. All students were successful at understanding the tattering technique and demonstrated so in their garment project. See Appendix O for student projects.

This research with the students showed it is possible to make a new top in two hours with one half hour of lecture and visual presentation time to share the tattering technique. While eleven is a small sample size, it certainly shows that unwanted garments can be re-visioned using tattering. The intention of the research was to discover whether the information in the manual was sufficient enough that a person could tatter a garment on his or her own. The researcher believes the students did understand the technique from the reading from the discussion that followed, but the demonstration and assistance tainted the findings.

**External Evaluation of Model**

A professor from this researcher’s university questioned whether museums or personal collections acquired garments from textiles sorting facilities, and did that have a place in this model? It was shown that there are rare finds, a textile sorting category, called *diamonds* that can be sold for several thousand dollars per pound. One facility employs a person with a MA in Fine Arts to keep up on the trends in the vintage clothing market (Hawley, 2006, p.7).
Pictures of the finished dresses and the new model were shared with Dr. Jung Ha-Brookshire, (Associate Professor and Director of Graduate Studies, Textile and Apparel Management, University of Missouri) who had wonderful comments on how to make the model better:

“1) The model is not presented in a linear fashion, with too many bold lines and colors. Often confusing. I do believe you could present this in a linear fashion with some arrows and feedback loops.

2) The size of each text box: Often, in models, different sizes of words and boxes could mean differences in importance. For example, “wear” is certainly more important than “care” while we are actively consuming. I would be careful in drawing and writing each term in the consistent sizes so you do want to show each stage is as important as others. If you want to highlight one area, you would do so with different colors.

3) I believe Clothing re-vision is a great idea but it could be also applied to or from all stages of consumption processes. I believe some people buy clothing while visioning what to do after… so, without having it in the right left corner of the model, I would rather have it as a boundary, encompassing the entire consumption process.”

She also commented that she loved the dresses and hopes to see them in person sometime in the future (J. Ha-Brookshire, personal communication, October 9, 2013).
CHAPTER 5

DISCUSSION

There were four purposes to this study. One purpose was to update Winakor’s acquisition model (Winakor, 1969, pp. 629-634). The second purpose was to record the steps during creation of three women’s dresses using the tattering technique. The third purpose was to provide a guide or manual, not only for the researcher’s future recycled clothing projects, but also for others who like to redirect discarded clothing into new clothing. The fourth purpose of this project was to explore making a garment on the female form instead of the male form using the tattering technique. This chapter provides a discussion of the results of this creative project.

This chapter notes that available unwanted used clothing supplies exist and creativity was used to upcycle the less than pristine garments. As a garment leaves the possession of its owner, there are many choices of how to dispose of it and those are identified in an updated model. The process and completion of the three dresses of recycled discarded garments will also be discussed. The research also shows that the techniques used to create a man’s garment were successfully applied to creating a woman’s garment, the exception being that a woman’s garment requires using thinner textiles, such as shirts and/ or additional tattering if making a curvier garment.
The ability to form usable garments from previously owned clothing provides the necessary information to expand on Winakor’s model (Winakor, 1969, pp. 629-634), and to create a manual for others to follow. There will be discussion about how using the seven universal stages of creative problem solving identified by Koberg and Bagnall (1991) provides a successful format to clearly identify the steps of the tattering process. Discussion about the stigma and shame associated with reusing discarded material was also included. Lastly, this chapter will also discuss how the theories and process models from the literature review impacted this study, and will compare these process models to this research.

**Using Unwanted Clothing to Create New Clothing**

According to the literature review, recycling used clothing as alternates to standard cloth is a practice used for basic needs, as a way to create a wearable aesthetic, and to reclaim and reuse materials that are still valuable. Tattering was a very creative way to reuse discarded clothing to create appealing new garments. Reusing garments in this way can be shared with others from this research.

It was discovered in the literature review and by calling on community and thrift shops that there are plentiful sources of unwanted clothing. Tattering was a method where new garments can be made from garments that have had little wear, but are stained and the dimensional stability has been altered. Even for the most damaged garments, strenuous laundering with water and soap is welcome as sometimes it unravels threads, corrodes bleach stains to become interesting holes, and further twists and distorts the knit. Exposing the inner goings-on of a garment by turning it inside out may not only hide a stain or unappealing screen print, but also create texture and unusual design elements.
Three Dresses Made with Tattering

The three dresses created from unwanted clothing were in combinations of colors that were pleasing and the textures of the garments themselves juxtaposed successfully. To create the desired aesthetic, these traits were combined with the unraveling; cut edges of slashing that clearly show the joining of garments with crochet and visible hand stitches.

Female Form and Male Form

The tattering method lent itself to incorporating female shape into a garment because the garment was shaped to the dress form as the tattering occurs. Whether shaping to a female or male form, the process was much the same. The difference was that additional rows of tattering can be made in the flat region of a woman’s shape, being the abdomen/waist area, used the same way a dart in a cut and sew garment was used as a fitting device.

Tattering to make women’s garments in comparison to men’s garments allows a little less restraint in terms of silhouette and novelty. In general women’s garments are more flamboyant than men’s, in that women’s garments commonly use ruffled edges, flared skirts, and decorative hemlines.

New Clothing Consumption Model

Winakor’s 1969 model was the first of its kind to establish the cycles within a household’s clothing acquisition, wear, care, storage, and disposal, and this research shows how discarded garments can be routed into re-visioned garments that maintain or increase their usefulness and value.

This research expanded on Winakor’s model (CH. 2, figure 2) that showed that clothing was being discarded after being acquired, worn, stored, and cared for, but did not explain the choices that consumers have in the disposal phase. Since attention to recycling used clothing was
being addressed in this research, the findings of those disposal channels have been included in this new model.

This new clothing consumption and disposal model (Appendix Q) allows others to recognize, as shown in Winakor’s 1969 model, that clothing was first acquired and stored with the possibility of wear that requires upkeep through cleaning and sometimes repair.

We know that clothing can be used according to season, personal preference, current employment, and correct fit. Clothing that was not worn was sometimes stored away and may or may not be used again. While Winakor’s model (Winakor, 1969, pp. 629-634) showed that clothing was discarded, it did not show the separate and distinct destinations. This new model shows that some garments will go to landfill, but that there are garment reuse possibilities from textile sorting facilities, hand-me-downs, thrift resale, consignment resale, garage sales, providing for the needy, or diversion to museums or collectors. It was the disposal methods of hand-me-downs, thrift resale, consignment resale, and garage sales that provide material that can be re-visioned into new garments.

Building on Winakor’s 1969 clothing consumption process model, a new model emerged from this research that includes diverting unwanted clothing to a new household and also for re-visioning discarded textiles into new clothing. Winakor’s model portrayed decisions to hold or release clothing at a particular juncture with channel keys, but in this new model, arrows will represent the flow of the decisions. See Appendix Q

Clothing acquisition (1) was the obtaining of apparel though purchases, accepting a gift, renting for special occasions, home construction, handed-downs, or provided work-wear. These items, belonging to an individual or a family can be considered to be in active storage (2) with the intention of current use, cycling through stages of wear (2¹), care (2¹). Additional clothing
was held in inactive storage (3) where items have the possibility of returning to active storage (2). Garments in active storage (2) can be placed in inactive storage (3), especially as the seasons change.

When a garment will no longer be worn by anyone in the household, disposal (4) can mean donation or sale to museums or collections (4^4), where the clothing will not be considered for continued use (2) (3) and will stay in the museum or collection or can again be disposed (4) to another museum or collection (4^4). The trained eyes at textile sorting facilities (4^A) can spot vintage clothing that is valuable, and will contact vintage dealers, people who collect privately, or museums (4^4) to encourage a sale to someone who was looking to preserve its history and beauty, and will pay the price it deserves. Garment donation to a textile sorting facility (4^A) can also provide clothing to the needy (4^3) that will become part of someone’s active (2) or inactive (3) clothing storage. When persons dispose (4) of clothing through a consignment shop or garage sale (4^3), by handing down (4^3), or through a textile sorting facility (4^A) that offers clothing in its thrift resale shops (4^3), any of these garments can become part of a new person’s active (2) or inactive (3) (blue lines and arrows) clothing supply, or they can be re-visioned (5) into new clothing through tattering or other upcycling methods, that can be added to a person’s active (2) or inactive (3) storage.

Disposal (4) can be relinquishing clothing to a landfill (4^1), as can be a portion of textiles from a textile sorting facility (4^A) if they are badly soiled, decayed, or beyond use.

**Manual**

Information gathered from this study has been complied into a manual that was tested by a sample group. The methods and illustrations in the manual were understood and used by this
group to create a top from three used garments using the tattering method. This manual can be published and shared with others to divert discarded clothing into new clothing.

A registered service mark for the word and method of tattering will be associated with this study and methods, and will be used in the title of the manual. See Appendix P (figures 75 and 76)

**Seven Stages of Creative Problem Solving as a Helpful Tool**

The seven universal stages of creative problem solving developed by Koberg and Bagnall (1991) was the helpful template in identifying the design process. Not only did it organize it in a way that others can understand, but also it provided opportunity to steep in the various steps, study the options, and build confidence in final choices. It was the staging of the garments on the dress form, pinned to the base layer that took the anxiety out of the project. Before, with Jîa, fabrics were simply tattered in, based on their acceptable relationship to one or two other fabrics and new fabrics were added in one by one, rather than having a pre-plan. In hindsight, the Jîa method was more about the experimentation of the slashing and crocheting, and identifying the acceptable aesthetic along the way. Once the researcher saw that it was an exciting new way to create clothing, this study was created to find a way to share this new technique with others, in an organized way. While all of the steps that have been created using the seven universal stages of creative problem solving were extremely helpful, it was the step where a garment juxtaposition sample was chosen that became the saving grace for these three dresses, as it was a preparation stage that allowed the final decision of garment placement; then the tattering technique could be concentrated on.

The researcher used a personal aesthetic to combining textures and colors that was difficult to explain in text. When others will follow these steps in the future, their aesthetic
choices will be different than in this research. The researcher did however approach each combination in a way that the final garments would be pretty, feminine, and sophisticated. This process strove to find textiles compatible in look to create a garment with a cohesive vision. There was quite a bit of time invested in making one of these garments, and it was important to pre-plan the juxtapositions and eliminate a garment that would not contribute to the aesthetic. Any garment that would draw the eye to the unsightly component was set aside for a later project.

The universal stages of creative problem solving solidified tattering as a process with very distinct steps with an expected outcome. Without these stages and organization of steps, explaining tattering would be a stray thought with a lot of hand gestures. Now it is on paper, has visual accompaniment, and can become a handbook that will facilitate learning and diffusion of the method.

**Lack of Acceptance of Reusing Discarded Material**

The researcher’s lifelong involvement in creating garments from rags, discarded garments, and objects has been an innate creative form of creating clothing. While the redeployed materials have been admired and purchased by many people, it is noted that an equal number of family, strangers, consumers, and journalists have downplayed the researcher’s deconstructive work of manipulating worn fabrics into new clothing. There can be stigma of clothing being made from rags; it makes many people feel ashamed. By creating something beautiful from discards, the researcher hopes to draw attention to a method that keeps material from entering landfill.
Theories and Process Models

While the elements in this study associated with repurposing garments were addressed as economic-based, aesthetic, and sustainability, the focus of this research was aesthetics and sustainability. Revealing the material recovery processes of the war-time restrictions, Boro, and feed sack dresses (Adrosko, 1992, pp. 129-133; Banning, 205, pp.228-230; Jones, 2002, pp. 171-183; Koide & Tsuzuki, 2008, pp. 4-5, 9, 12, 21-29, 37-49, 52-57, 63, 68-71, 80-81, 86-87; Norman, 2007, pp. 12, 14-16, 26, 49-52, 57-58, 63-64, 106, 117-118, 121-124, 134, 141-141; Reynolds, 1999, para. 3, 9, 14, 17-19; Zweiniger-Bargielowska, 2000, pp. 120-121) demonstrated that textiles can continue on in different applications, retaining or increasing in value. This ideal from this literature review was a credo of this study.

All of the designers noted in this study reclaimed garments and while the stories of Chanin and Margiela (Chanin, 2012, pp.4, 5, 21-22, 28-29, 44, 98-13, 14-141, 152-153, 162-163; Di Trocchio, 2011, Flint, 212, pp. 166-167; p. 101; Gill, 1998, pp. 25, 27-28; Gwilt, 2011, pp. 70-71; Haight, 208, p. 20; Silva, 2002, para. 3-4, 14-15; Vinken, 2004, pp. 31, 141-142, 149-150) were told through the lens of aesthetics, they were practicing sustainability simply by showing that discarded clothing had value. The aesthetic of their clothing exists because it was recycled. This was another shared commonality of this study with the literature review.

The missions of Flint, TRAID Remade, Junky Styling, Dunn, and Fraser (Dunn, 2008, pp. v, 3, 6-8, 31-38, 40-71; Fletcher, 2008, p. 103; Flint, 2007, pp. 3-5; Flint, 2008, pp. 78, 82, 142, 210, 216; Flint, 2012, pp. 132-133,187-205; Fraser, 2009, pp. 14, 17, 38-39; Hawley, 2006, pp. 12-13; Hawley, 2011, pp. 150, 152; Minney, 2011, pp. 93, 167; Rissanen, 2011, p. 130; Young, Jirousek, & Ashdown, 204, pp. 62-63) were to keep textiles from the landfill and produce interesting garments. They all delight in textiles that got a second chance and it was
simply this that provides the inspiration for each new garment. This research also found the hunt and compiling of used garments to be as compelling as the process of re-creation itself. While this research did not necessarily set out to develop methods as Dunn and Fraser did in building a model for repeatable construction using pants (Dunn, 2008, pp. 43-71; Fraser, 2009, pp. x, 31, 42-55; Farrer, 2011, pp. 27-28), it did emerge with discovery that sweater and t-shirts which are in great supply, and the similar formation of the three dresses that can be repeated again and again.

Flint realized that three shirt sleeves cut flat and sewn together could create a cylinder shape that becomes a skirt portrays the simplicity, cleverness, and humor that makes recycling clothing a delight (Flint, 2012, pp. 199-200). The researcher experienced many moments of feeling clever and having a chuckle while making the three dresses.

Winakor’s model (1969, pp. 629-634) represented the circulation of clothing within a household and basic community by passing on of clothing, such as giving an expectant sister already worn maternity wear and baby clothing, or selling a deceased relative’s clothing at a yard sale. Winakor’s model began to interpret value in used clothing. The new model identified additional avenues of continued value from clothing.
CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

There were several purposes of this study. One purpose was to update the Winakor model (1969, pp. 629-634) of clothing consumption by elaborating on the different types of disposal methods. Another purpose was to create three women’s dresses by tattering discarded garments. This research was also used to explore making a garment for a woman’s shape, following what had been previously learned from making a garment for a man’s shape. Also this study was to take appropriate directions and visuals and create a guidebook, not only for the researcher’s future recycled clothing projects, but also for others to recycle used clothing into new clothing. This chapter will state the outcome of the purposes, summarize the project, and make suggestions for further research.

Outcomes

A new model of clothing consumption has emerged that identifies the specific channels of textile discarding. This model can be used by other researchers to initiate additional research. Research on clothing donations, landfill studies, sorting facilities, and many other types of research could incorporate the updated model into their studies. Other researchers may want to expand on the updated model in order to bring more scope to the subject of clothing consumption.
One of the purposes of this research was to make dresses using garments that were donated or purchased from thrift shops. The researcher was extremely satisfied with the three dresses that were assembled for this project because they have the visual aesthetic that was anticipated. The acceptance by others was tentative by both consumer and professionals. However, the garments were successful in reducing waste to the landfill. This supports the need to continue investigating ways to support sustainability of textiles.

Creating a tattered dress for a woman was very similar in comparison to tattering a man’s top. The tattering process has now been shown to “shrink” the area, so that whenever the garment should fit tighter to the body, lines of tattering should be formed. This thinking is along the lines of sewing darts in a garment, where fabric is extracted in order to add shape.

The step-by-step process of tattering was completely illustrated and was organized in a manner that created a manual so that an individual may try it independently.

**Summary**

There is a strong trend today to reuse, recycle, and reduce, and tattering can bring a fresh, fun new view on how to repurpose discarded clothing. It allows these textiles to retain and possibly increase their value. It allows fibers that were grown such as cotton, taken from an animal such is wool, or created in a factory using oil such as polyester, the chance to be used until it is close to disintegration.

While some persons instinctively re-vision garments, others need the materials to do so. The updated clothing consumption model identifies places where PCTW can be found. It has been shown that garments can be created for a men or women using tattering. It is possible that a woman may want a loose garment and would forgo the extra tattering steps to make it a curvy
garment. People come in all sizes and shapes and tattering can be used to create many types of silhouettes.

**Recommendations for Future Research**

A simplified “less creative” consumption model, as suggested by Dr. Ha-Brookshire, could be created that might appeal to more researchers and be better understood by the public. The three dresses were created and judged to be successful if they accomplished the researcher’s aesthetic, which they did. However more research on external acceptance is needed. If the technique in a dress is unappealing to women other garment types or forms such as accessories or wall hangings may be more acceptable. Sales appointments made with popular ready-to-wear boutiques could offer the opportunity to show the garment to see if the store decision makers and customers found the garments appealing. The researcher sent pictures and/or dresses to several stores. One store liked the concept as a tunic, without the under layer that can be worn over a t-shirt and leggings, and using thinned shirt fabrics. Another store wanted the garments with an opening down the front and closures, so they could be used as a cold weather coats. The researcher is happy to have a new technique that can be adjusted to fit a boutique’s clientele.

Future venues where a target market may exist for tattered garments could be music festivals and sustainability conferences.

The researcher will continue to experiment with re-visioning used clothing, and has imagined a method where used garments are tattered together with less tattering, and more flat surface to create skirts and tops. This would be less bulky, and could also allow areas to be embellished with a block print. The researcher will continue to conduct research in her studio to see what creative ideas occur to re-ision used garments.
None of the three dresses (Appendix N, figure 73) were selected by professionals for the 2013 ITAA design competition. The selection of garments is subjective and is also dependent on what other designs have been submitted. The same dresses may be accepted another time in the ITAA competition, these dresses could be entered into other clothing competitions to see reactions and additional garments could be created and entered into the 2014 ITAA competition.

The manual should be retested for clarity as the only test was tainted when a demonstration of tattering was shown to the subjects by the researcher, when they should have only been given the manual, the materials, and the tools to see if they could tatter from the instructions. The subjects could also record their accomplishments and/or struggles in using the manual. Additional information could be added to the manual to clarify steps that were difficult to comprehend. The manual could also come with a link to a video demonstration that would add another means of explanation for visual learners.
REFERENCES


FIGURES

Figure 1: photograph taken by John Huffer, Ball State Photography Services (2012). Jia.


Figure 3: photograph taken by Kyoichi Tsuzuki (2008). Donja. *Boro: Rags and tatters from the far north of Japan*, p. 12.


Figure 11: unknown photographer (2012). Maison Martin Margiela F/W ’12 Couture Show. Retrieved from [http://www.stylebistro.com/runway/Couture+Fall+2012/Maison+Martin+Margiela/Details/P3Q6Q6zXH1z](http://www.stylebistro.com/runway/Couture+Fall+2012/Maison+Martin+Margiela/Details/P3Q6Q6zXH1z)


**Figure 19:** unknown photographer (2013). TRAID Remade sweatshirt. Retrieved from [http://traidremade.myshopify.com/collections/mens-tops](http://traidremade.myshopify.com/collections/mens-tops)


**Figure 21:** photographer unknown (2008). The sky is falling. Survivalist fantasy. *ReFashion reDunn*. (Unpublished master’s thesis). Massey University, Wellington, NZ.

**Figure 22:** computer generated drawing by Jo Dean Tipton (2013). ReFashion dress made form men’s trousers. Garment taken from photograph in Kim Fraser’s *Redress- refashion as a solution for clothing (uns)ustainability*. (Unpublished master’s thesis). AUT University, Auckland, New Zealand.

**Figure 23:** drawings by unknown artist (1941). Make do and mend- how to convert a man’s suit into a woman’s suit: 1940s instructions. Retrieved from [http://vintagevisage.typepad.com/my-blog/make-do-and-mend/](http://vintagevisage.typepad.com/my-blog/make-do-and-mend/)


Figure 30: photographs by Jo Dean Tipton (2013). Pink project garments

Figure 31: photographs by Jo Dean Tipton (2013). Red project garments

Figure 32: photographs by Jo Dean Tipton (2013). Purple and teal project garments

Figure 33: photograph by Jo Dean Tipton (2013). Acceptable Pink Juxtaposition

Figure 34: photograph by Jo Dean Tipton (2013). Rejected Pink Juxtaposition

Figure 35: photograph by Jo Dean Tipton (2013). Acceptable Red Juxtaposition

Figure 36: photograph by Jo Dean Tipton (2013). Rejected Pink Juxtaposition

Figure 37: photograph by Jo Dean Tipton (2013). Acceptable Purple & Teal Juxtaposition

Figure 38: photograph by Jo Dean Tipton (2013). Rejected Purple & Teal Juxtaposition

Figure 39: photographs by Jo Dean Tipton (2013). Pink front and back base layer #1 (rejected)

Figure 40: photographs by Jo Dean Tipton (2013). Pink front and back base layer #2 (accepted)

Figure 41: photographs by Jo Dean Tipton (2013). Red front and back base layer #1 (accepted)

Figure 42: photographs by Jo Dean Tipton (2013). Red front and back base layer #2 (rejected)

Figure 43: photographs by Jo Dean Tipton (2013). Purple and teal front and back base layer #1 (accepted)

Figure 44: photographs by Jo Dean Tipton (2013). Pink front and back juxtapositions #1 (rejected)

Figure 45: photographs by Jo Dean Tipton (2013). Pink front and back juxtapositions #2 (rejected)
Figure 46: photographs by Jo Dean Tipton (2013). Pink front and back juxtapositions #3 (rejected)

Figure 47: photographs by Jo Dean Tipton (2013). Pink front and back juxtapositions #4 (rejected)

Figure 48: photographs by Jo Dean Tipton (2013). Pink front and back juxtapositions #5 (accepted)

Figure 49: photographs by Jo Dean Tipton (2013). Red front and back juxtapositions #1 (rejected)

Figure 50: photographs by Jo Dean Tipton (2013). Red front and back juxtapositions #2 (rejected)

Figure 51: photographs by Jo Dean Tipton (2013). Red front and back juxtapositions #3 (accepted)

Figure 52: photographs by Jo Dean Tipton (2013). Red front and back juxtapositions #4 (rejected)

Figure 53: photographs by Jo Dean Tipton (2013). Red front and back juxtapositions #5 (rejected)

Figure 54: photographs by Jo Dean Tipton (2013). Purple and teal front and back juxtapositions #1 (rejected)

Figure 55: photographs by Jo Dean Tipton (2013). Purple and teal front and back juxtapositions #2 (rejected)

Figure 56: photographs by Jo Dean Tipton (2013). Purple and teal front and back juxtapositions #3 (rejected)

Figure 57: photographs by Jo Dean Tipton (2013). Purple and teal front and back juxtapositions #4 (accepted)

Figure 58: photographs by Jo Dean Tipton (2013). Purple and teal front and back juxtapositions #5 (rejected)

Figure 59: photographs by Jo Dean Tipton (2013). Tattering basics

Figure 60: photographs by Jo Dean Tipton (2013). Pink base layer creation

Figure 61: photographs by Jo Dean Tipton (2013). Pink tattering in process
Figure 62: photographs by Jo Dean Tipton (2013). Red tattering in process

Figure 63: photographs by Jo Dean Tipton (2013). Purple and teal tattering in process

Figure 64: photographs by Jo Dean Tipton (2013). Pink front and back completed

Figure 65: photographs by Jo Dean Tipton (2013). Red front and back completed

Figure 66: photographs by Jo Dean Tipton (2013). Purple and teal front and back completed

Figure 67: computer generated drawings by Jo Dean Tipton (2013). Pink dress steps of assembly 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, and 15

Figure 68: computer generated drawings by Jo Dean Tipton (2013). Red dress steps of assembly 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, and 15

Figure 69: computer generated drawings by Jo Dean Tipton (2013). Tattering instructions included in manual: steps 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, and 13

Figure 70: computer generated drawings by Jo Dean Tipton (2013). Preparation and use knowledge of tattering included in manual: steps 1, 2, 3, 4, 5, 6, and 7

Figure 71: computer generated drawings by Jo Dean Tipton (2013). Pinch and hold fabric during slashing included in manual


Figure 73: photographs by Jo Dean Tipton (2013). Photographs of student with top and glimpse of student work

Figure 74: photographs by Jo Dean Tipton (2013). Tattering session and Fashion show

Figure 75: certificate of Service Trademark for tattering (8/27/2013).

Figure 76: computer generated tattering logo by Jo Dean Tipton (2013).

Figure 77: computer generated drawing by Jo Dean Tipton (2013). Clothing Consumption Model
APPENDICES
APPENDIX A

Leaflets from Great Britain’s Mend and Make Do Wartime Effort
Leaflet no. 1

For maternity clothing, regular dresses can be altered by cutting straight down the center front, adding a panel from another textile to increase the front width. When there is enough fabric for the panel to be pleated or gathered before insertion, the dress should last the entire pregnancy (Norman, 2007, p. 106).

Leaflet no. 4

Children’s clothing can be picked apart at the seams with a sharp razor blade, penknife, or sharp-pointed scissors, so that each piece is separate. For the child, sewing a panel of fabric into seams, and cutting longer waist yokes from another garment will add length and room to grow.

Some other suggestions are to never cut up children’s clothes until they are beyond repair, and after the seams are picked apart to hold them up to the light to see the worn parts, then tacking those areas with a different color thread ring. The pieces are then washed, laid flat to dry, pressed, and treated as if sewing clothing from new fabric, avoiding those areas inside the thread rings. Another suggestion is to cut the turnings (seam allowance) a little bigger for a future let-out. Using two or three different fabrics in one garment is suggested, as long as they wash the same (Norman, 2007, pp. 14-15). Men’s pants can be re-cut into a child or toddler’s garment (Norman, 2007, p. 15).
Leafllet no. 5

It details how to unpick the stitches of the facings and revers at the neckline of a wool coat, and releasing all stitches that run down the front. It would then be possible to re-cut the neckline, and add slim panels to each side, made from a worn frock. A coat can also be cut into a skirt and jacket. After cutting across the coat, just below the waist, the section that will be used for the skirt can be re-shaped to flatter, and then it can be sewn to a blouse. The top half of the coat would be faced at the bottom to become a matching jacket.

A jerkin, a man’s short, close fitting jacket, can be made by using fabric from a badly worn piece of clothing, sometimes adding a knitted yoke from an unraveled sweater.

As soon as a sweater needs repair, such as a hole, a small knitted patch can be made, and sewn into the spot, rather than darn (Norman, 2007, pp. 132-133).

If the sweater is badly shrunk or ragged, one can unpick the seams and pull the yarn, starting at the neckline or top or sleeve. The yarn make break in places, but leave it
broken as it is wrapped into the skein, as it can just be overlapped and rolled together between fingers when reuniting. After a skein is made, it should be swished in warm soapy water and left to dry (Norman, 2007, pp. 61-64).

When knitting a new garment from reclaimed wool, two colors of yarn can be used, for example the collar, waist rib, and sleeve can be one color, and the body another.

It mentions reversing sweater sleeves if that is the only part that is spoiled by wear.

By picking apart the underarm and armhole seams and reattaching so the inside now becomes the outside, the sweater will last longer. It reminds that the left sleeve will become the right and vice versa (Norman, 2007, p. 52).

Indoor slippers were made for each family member in order to save the condition of the outdoor shoe. The pattern for the sole can be made by tracing around each of the feet, and cut four pieces of material for each foot, using one of these, or combinations of these: worn carpet, cardboard, canvas, or leather. The four layers would be quilted together, leaving ¼” around the outer edge for attaching to the sides. The side and upper panels, while there is no indication of pattern or how to measure, could be made from silk, satin, lace, woolen remnants, cretonne, tapestry, spoiled felt hats, curtain materials, fur, velvet, velveteen, or coat interlinings. The next inner layer, used to stiffen the pieces, could be made from old desk chair canvas, worn fine-straw hats, or heavy cottons. A piece should be cut of this kind of heavy material to put in the heel area between layers before quilting. Lining for the sole and upper areas would be cut from a smooth fabric like satin. The uppers would be sewn to the sole, using two needles and heavy, waxed thread. The needles would be inserted into the same hole, one up and one down (Norman, 2007, pp. 121-124).
Leaflet no. 8

The title of this publication is “Every Woman her own Clothes Doctor”, and it describes that to lengthen a dress, that the seams should be picked apart at the waist, and a contrasting fabric added to the top circumference of the skirt, also replacing the waist yoke with the same fabric, but cutting a little longer. Binding the neckline or hem or adding a pocket in the added fabric can tie all the improvements together (Norman, 2007, p. 49).

Replacing the bottom half can freshen up shabby longer coats. This requires cutting off across the width, below the waist and replacing with another coat bottom. Cutting and applying big patch pockets from the bottom fabric can hide additional worn spots (Norman, 2007, p. 50).

Leaflet no. 12

This helpful pamphlet is full of ideas to “smarten up your men”, providing beneficial courses of action to prolong the life of trousers by sewing a strip of leather at the heel side of the hem or narrowing the trouser pockets to possess enough of the same fabric to repair a fraying seat. If a collared, front button shirt has holes; part of the tail can be cut away to patch those holes. The then missing shirttails can be replaced with similar washing fabrics. The bottoms of pockets can also be cut away for repair materials elsewhere, and other fabric can replace it, as it is not seen (Norman, 2007, pp. 131-134).
APPENDIX B

Additional India Flint Simple Reconstruction Projects (Flint, 2012, pp. 199-200)
To Make a Sweater Skirt

Cut sweater sleeves off just above elbow length.

Cut open the shoulder seams from neck edge to end of newly cut sleeve, opening the entire top edge.

Ruffles will be added to the hem. Use another sweater, and cut apart along the underarm seam, from neck edge to end of sleeve and lay flat. Cut up the center front. Follow the diagram cutting lines to cut strips. These can be sewn end to end, and gathered to attach to the bottom edge of the skirt (see next step).
Turn the sweater upside down, making what had been the bottom edge of the sweater now the waist of a skirt, and elastic can be sewn at the waist for a tighter fit (Flint, 2012).

To Make a Dress from two Sweaters
Using the method above, attach the waist of the skirt to the bottom of another sweater to create a dress.
It can be cut up the center front to create a long cardigan.

One can stretch out the raw edges of the cardigan, or bind the edges with bias made from a discarded garment, adding buttons and loops if desired (Flint, 2012).

*Figure 29: Flint’s sweater coat*
APPENDIX C

Individual Garments under Consideration
Figure 30: Pink project garments

These 14 discarded garments were collected from family, friends, FreeCycle readers, the researcher’s collection, and Goodwill stores to be considered as materials for creating the pink tattered dress.
These 12 discarded garments were collected from family, friends, FreeCycle readers, the researcher’s collection, and Goodwill stores to be considered as materials for creating the red tattered dress.
These 9 discarded garments were collected from family, friends, FreeCycle readers, the researcher’s collection, and Goodwill stores to be considered as materials for creating the purple and teal tattered dress.
APPENDIX D

Accepted and Rejected Fabric Juxtapositions
Figure 33: Pink Accepted
Figure 34: Pink Rejected

Figure 35: Red Accepted
Figure 36: Red Rejected

Figure 37: Purple & Teal Accepted
Figure 38: Purple & Teal Rejected
APPENDIX E

Base Layer Choices
Figure 39: Pink front & back base layer choice #1 (rejected)
Figure 40: Pink front & back base layer choice #2 (accepted)
Figure 41: Red front & back base layer choice #1 (accepted)
Figure 42: RED front & back base layer choice #2 (rejected)
Figure 43: Purple & teal front & back base layer choice #1 (accepted)
APPENDIX F

Garment Arrangements
Figure 44: Pink front & back juxtapositions
#1 (rejected)
Figure 45: Pink front & back juxtacpositions #2 (rejected)
Figure 46: Pink front & back juxtapositions #3 (rejected)
Figure 47: Pink front & back juxtapositions #4 (rejected)
Figure 48: Pink front & back juxtapositions #5 (accepted)
Figure 49: Red front & back juxtaposition #1 (rejected)
Figure 50: Red front & back juxtaposition #2 (rejected)
Figure 51: Red front & back juxtaposition #3 (accepted)
Figure 52: Red front 7 back juxtaposition #4 (rejected)
Figure 53: Red front & back juxtaposition #5 (rejected)
Figure 54: Purple & teal front juxtaposition #1 (rejected)
Figure 55: Purple & teal front & back juxtaposition #2 (rejected)
Figure 56: Purple & teal front & back juxtaposition #3 (rejected)
Figure 57: Purple & teal front & back juxtaposition #4 (accepted)
Figure 58: Purple & teal front & back juxtaposition #5 (rejected)
APPENDIX G

Photographs of Tattering Process
Figure 59: Tattering Basics
Figure 60: Pink base layer creation
Figure 61: Pink tattering in process
Figure 62: Red tattering in process
Figure 63: Purple and teal tattering in process
APPENDIX H

Finished Garments
Figure 64: Pink front & back completed
Figure 65: Red front & back completed
Figure 66: Purple & Teal front & back completed
APPENDIX I

Vector drawings of dresses
**Figure 67: Pink dress steps of assembly**

**Pink step 1**

- Hand stitch edges of garments together with a whipstitch, distributing excess of bottom garment to top garment.
- T-shirt is inside out and backwards.
- Cut across shoulder seams and down top of sleeves to create skirt opening.

**Pink step 2**

- Place wool sweater upside down over base layer.
- Hold in place with pins.
- Cut across shoulder seams and down top of sleeves to create skirt opening.
Pink step 3

pull angora sweater over base layer and wool sweater, pulling base layer sleeves through angora sweater sleeves

Pink step 4

upside down draped neck top is pinned in place at the waist
cut open shoulder seams and top of sleeves to create skirt opening
Pink step 5

cardigan is draped over right sleeve with bottom of cardigan pulled along the center front.

Pink step 6

Fold edge of the draped cardigan to make cuts.

Start the cuts 4" below shoulder seam, going all the way to bottom. Cut along edge until ribbing, then move just to the inside edge of the ribbing. The cuts are approximately 1 1/2" wide and 1 1/2" between.
Pink step 7

Pin mark along the edge of the cardigan on the angora sweater.

Pink step 8

Following the pins, make the same number of cuts as the cardigan +1. Don’t worry about them being exactly the same size, or same distance from each other.

Fold edge of cardigan back. Make row of cuts along folded edge.
**Pink step 9**

- Tatter
- Cut open side of cardigan sleeve and cut three rows of slashes in cardigan only.
- Also cut open side of angora sweater sleeve, but do not cut any slashes.
- Tuck angora sweater into wool sweater and cut slashes in wool and angora sweater at same time.
- Cut three rows of slashes as shown in draped neck top and wool sweater at same time.

**Pink step 10**

- Tatter cardigan sleeve finger crochet slashes of cardigan to itself - do not attach to another garment.
- Thread tack final loops.
- Stretch bottom edge of sleeve.
- Cut slashes along draped top sleeve.
- Cut 3 rows of slashes in sleeve to be tattered to itself.
- Start first row of skirt tattering by pulling angora loops through both layers to surface to anchor all layers together with thread.
- Tatter all three rows on skirt, pulling wool sweater slashes though to surface and thread tack last loops.
- Hand stitch curved, double rows with exposed knots and thread ends through angora sweater and base layer t-shirt, then slash only the angora sweater in between stitching.
Pink step 11

tatter draped top sleeve to itself

tatter base layer t-shirt sleeve to itself

Pink step 12

BACK

Pin cardigan to back waist
**Pink step 13**

- Hand stitch through all layers in double rows that end with exposed knots and thread ends, then slash angora sweater layer only in the middle.
- Cut outer side of sleeve open at bottom.
- Cut slashes as shown on cardigan and bottom of angora sweater.
- Tip sleeve to expose underarm seam, and cut open when cutting slashes through top layer cardigan, also cut slashes through the cardigan below it.

**Pink step 14**

- Add a few more cuts with hand stitched outlines and exposed knots and thread ends.
- Fold the cardigan sleeve up to waist.
- Tatter cardigan to pink draped top.
- Cut row of slashes through outer cardigan only.
- Tatter cardigan to angora sweater and lower cardigan.
Pink step 15

Cut two 3/8"x20" strips from the sleeve of the wool sweater, then sew a running stitch through the center of each, lengthwise - pull the stitch to gather each strip, then hand stitch as shown through all layers.

Tatter the cardigan sleeve to the angora sweater (top row) and the draped top (middle row) and tatter the bottom row of cardigan to itself.
Figure 68: Red dress steps of assembly

Red step 1

Red step 2
Red step 3

Turn textured sweater inside out & pin to form, wrapping to back.

Pin knit dress to form at shoulder, and let it hang.

Red step 4

These garments were wrapped from the front and pinned to form.

Wrapped from front.
Red step 5

Twist and curl the right side, and pin to form.

Red step 6

Slip sweater hoodie on form, over other garments.
Red step 7

L/S t-shirt is folded and pinned to other layers

Sleeve of cotton top with ruffle trim is slipped over hoodie sleeve

Red step 8

cotton top was slipped over sleeve

ribbed sweater draped to front and pinned in place
Red step 9

cut open these three sweaters and one dress at underarm and side seams while still pinned to the form.
slash edges as shown

cut down front

cut down top of sleeve and shoulder

layout of sweaters #1 & 2 are shown here.

proceed with #3 & 4, with both cut open down the front
**Red step 10**

To shape the garment more to the body, slash and tatter the fabric only to itself (tattering can shrink an area that is too big).

Tatter any and all overlapping and matching slashes.

Anchor each end loop with hand stitching.

**Red step 11**

The bust area was tattered to itself to shape it to the bust, and the loops look like flowers because of how loose the knat is. Connect loops to underlay with hand stitches to anchor.

Create more lines of slashes in anticipation of more tattering.

Cut open an additional sweater and tatter, adding length to dress.
Red step 12

1. this is how the back looks after the front has been tattered

2. cut open the underarm and sleeve seam of #1, 2, & 3

3. back of tattering from front

Red step 13

BACK

back is tattered

follow the basic tattering instructions of connecting several garments to create “fabric” with these garments
last step was to cut away any grey (zipper and knit) as it seemed to fight with the other textiles
APPENDIX J

Noted thoughts during creation of three dresses
General Thoughts

- Tattering garments will continue to shred threads and fibers when worn
- Possible remedies to wash away lint could be:
  - Laying a dress in a bathtub of water that is filled and drained several times
  - Laying a dress in a river with several rocks to hold it down

Pink Dress

- The pink dress was the first of the three to test the organization that had not been with Jîa and the process went smoothly and it took much less time than Jîa.
- Tattering time starting from sewing the base layer together to the final stitch was twenty-eight hours.
- Pink dress was achieved by pulling the garments onto the form, one over the other
- The pink dress was not heavy, and the stretch seemed to be widthwise, which made it seem like it would not grow long over time. This piece of information is noted, as it may be wise to choose garments that have more stretch widthwise.
- With the confidence that the color and line placement had been decided, it was there was enjoyment of tattering.
- While the photograph of the chosen juxtaposition shows a chunky crochet at the neck, it was decided after tattering had begun that the texture and color did not complement as originally thought, and was not used.

Red Dress

- Several of the garments had pilled badly in the wash and was turned inside out
• Tattering time from slipping base layer on form to the final tacking stitch was thirty-two hours

• There was variety of the amount of stretch in length and width that each garment had, so combining garments produced wonderful pulls, pleats, and gathers

• Red dress was achieved by cutting the garments that were lying over the base layer into flat textiles while hanging on the form to tatter, rather than pulled onto the form as in the pink dress- it felt like both methods are valuable

• Red dress will feel especially soft next to the skin

Purple and Teal Dress

• Purple and teal dress used cut open sweaters only and no t-shirts

• The ribbon sweater needed delicate handling when tattering as the knit loosened up because the ribbon was so slick- note for future tattering projects will be not to use this kind of garment as it could surely disintegrate on its wearer

• Tattering time from slipping base layer on form to the final tacking stitch was twenty-one hours
APPENDIX K

Step by step tattering
Figure 69: Tattering instructions

**STEPS OF TATTERING**

**step 1:**
Fold the edge of the garment over 1 - 1 1/2”.

**step 2:**
Make cuts through both layers, so when the fabric is opened flat, the cuts are 1 1/2”.

*This is what your garment edge will look like, after you had folded it and cut. Try to keep the cuts at least 1/2” from the edge.*

**step 3:** Make the cuts approximately every 1 1/2”. It does not have to be exact. If a fabric has very little stretch, the cuts will need to be longer.
step 4: When joining two garments together using tattering, cut both edges with the same number of cuts. The two textiles can be folded over together to make the cuts, just be careful not to cut through the edge. If you do cut the edge open, use a double threaded hand needle, overlap the two pieces and stitch them, letting the stitching show.

step 5: Shift the edges as shown above.
step 6: Lay one edge over the other, lining up the cuts, making sure the cuts are shifted between each other.

step 7: Reach into a cut with your thumb and forefinger to grab a loop of fabric between two cuts on the lower layer of fabric.

step 8: Next: pull the loop through the cut to the surface.
step 9: Pull next loop though, using same technique as with first loop.

step 10: Pull second loop through first.
step 11: Continue down the row, pulling the next loop up from the bottom layer, and pulling it through the previous loop. When you get to the end of the row, if you have a cut, but no loop to pull through, take a couple loops out, and cut a lower loop in two, then return to “finger crocheting” and use all the loops and cuts.

step 12: Pin the end loop in place.

step 13: To secure the loop in place, use a double threaded needle with no knot, and secure it to another layer. Let the thread ends show.

NOTE: When the loops are small, the lower fabric gathers, which can be really beautiful. Experiment with fabrics - some fabrics suit a design if the loops have a bigger cut; 3-3 1/2”, for example. This will allow the fabric on the under layer to lie more flat.
APPENDIX L

Cutting garments flat and tattering
Figure 70: Tattering preparation and use

The knit shirt, sweater, or dress can be cut open to lay flat to provide fabric to slash and tatter with.

Step 1: Cut open the side and underarm seams.

Step 2: Once cut apart at the sides, open up and lay flat.
step 3: several different garments can be cut apart and laid next to each other to somewhat match edges
Step 4:
Next is to cut slashes in the edges that will overlap with the adjacent garment.
step 5: using the tattering technique, join the garments into “fabric”

secure all of the last loops with hand stitching
step 6: shown here are several possibilities for preparing the neckline openings for tattering
step 7: overlap the edges and tatter

secure all of the last loops with hand stitching

note: when fabrics are next to each other on the form, this process is a way to connect them without taking them off the form
APPENDIX M

Pinching the garment to make slashes
Figure 71: Pinch and hold fabric during slashing

To make cuts for tattering while the garment is on the form, pinch an area together with your thumb and forefinger, then make the cuts with the tips of the scissors.
APPENDIX N

Applications to ITAA 2013 Conference
Figure 72: Applications to ITAA 2013 Conference

Application 1: 2013 ITAA Annual Conference Design Exhibition
Category: GRS - Target Market Mounted Exhibit
Artist: Jo Dean Tipton
Title: Deconstructed Darling

Artist Statement:
Finding discarded materials is a magic treasure hunt that allows sifting through colors and textures. This garment combined angora, cotton, wool, polyester, and spandex fibers using tattering: a process of slashing garments and using the loops to crochet one layer to another as an aesthetic.
Application 2: 2013 ITAA Annual Conference Design Exhibition
Category: GRS- Target Market Mounted Exhibit
Artist: Jo Dean Tipton
Title: Tatter Queen

Artist Statement:
As garments are discarded, material recovery processes such as Make Do and Mend or the Boro kimonos can be inspiration to re-vision sweaters and knit garments into a new garment. The Tattering technique is used to reveal the unraveling of cut yarns as an aesthetic.
Application 3: 2013 ITAA Annual Conference Design Exhibition
Category: GRS- Target Market Mounted Exhibit
Artist: Jo Dean Tipton
Title: Every Woman her own Clothes Doctor

Artist Statement:
Today fast fashion leaves mounds of perfectly good textiles to go to landfill or to be re-visioned. To create this dress, combinations of textures of discarded sweaters and knit garments were joined using a technique called tattering. Tattering repurposes garments by cutting slashes in two or more layers, then crocheting each loop to the next, connecting all the garments securely together to make a new garment.
APPENDIX O

Tattering Projects of Eleven Fashion Design Students
Figure 73: Photographs of student with top and glimpse of student work

Student #1

Student #2

Student #3

Student #4 & #5

Student #6

Student #7
Student #8

Student #9

Student #10 & #11

*Figure 74: Tattering session*

Fashion Show
APPENDIX P

Certificate of Service Trademark Registration
Figure 75: Service Trademark Registration

State of Indiana
Office of the Secretary of State
CERTIFICATE OF TRADEMARK REGISTRATION

I, Connie Lawson, Secretary of State of Indiana, hereby certify that in accordance with the application filed in this office on behalf of the following:

30 BEAN STREET
2616 N 3RD ST RD
ANDERSON, IN 46011 USA

The TRADEMARK described below has been duly registered in this office pursuant to Indiana Code 24-2-1-1 et seq.

TATTERING

This mark is used in connection with the following: USED CLOTHING IS CONNECTED TOGETHER TO CREATE NEW GARMENTS BY CUTTING SLASHES AT EDGES AND CROCHETING THEM TOGETHER. THIS METHOD CAN BRING VALUE TO SOMETHING THAT NORMALLY ENDS UP IN LANDFILL. I HAVE CREATED AN INSTRUCTION BOOKLET (ATTACHED) AND PLAN TO TEACH CLASSES TO OTHERS.

Class of Merchandise: 41
Date of Registration: 8/28/2013
Date of first use in the United States: 7/22/2013

FILE No. 2013-0291
Date of Expiration: 8/27/2018
Date of first use in Indiana: 7/22/2013

In Witness Whereof, I have hereunto set my hand and affixed the seal of the State of Indiana, at the City of Indianapolis, on August 28, 2013

Connie Lawson
Secretary of State

Certificate Number: 20/30128-18844

Figure 76: Tattering logo

tattering
APPENDIX Q

New Model for Clothing Consumption
Figure 77: Clothing Consumption Model by Jo Dean Tipton (2013)