Polonaise Meets Zero-Waste

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This design began with the fabric. The designer had been holding onto a large piece of vintage, red wool melton for over four years because she did not want to waste the expensive fabric. The fabric was 58" wide by 144" long. Thus, a zero-waste approach was adopted so that none of the fabric would end up on the cutting room floor and because of the importance of sustainable practices in the industry. The designer then investigated some typical approaches and past garments using zero-waste techniques (Rissanen & Mcquillan, 2016). Many designers view zero-waste as a brand-new design philosophy. But, when looking at historic garments, it is clear that utilizing all or almost all of the fabric was extremely important until recent times when fabric became much less expensive (Rissanen & Mcquillan, 2016). The relationship between contemporary zero-waste design and inspiration from the fabric conserving practices of the past, namely quilting, has been utilized by another ITAA designer (Martindale, 2017). The previous design gave further validation to the chosen inspiration and approach for the current piece.

The present design was meant to visually demonstrate the connection between contemporary zero-waste approaches and historic low-waste garments. Ultimately, the designer found inspiration from the polonaise gowns of the 1700s. The robe a la polonaise of the late eighteenth century was a gown that typically featured no waistline seam and a bustled skirt (Van Cleave & Welborn, 2013). The designer investigated various online museum collections to find images of extant robe a la polonaise for inspiration prior to the design process. Based on the inspiration, it was determined that creating a coat was most appropriate for the chosen fabric, a waistline seam would be excluded, bustling would be added, and some type of raw-edged floral embroidery would be utilized.

First, the designer created a rectangle in Optitex that was half the size of the final fabric so that the initial patternwork could be done in half-scale. The designer decided to flat pattern a kimono-sleeved bodice with a rectangular skirt created by cutting the underarm seam. This rectangular skirt was meant to echo a common silhouette from the 1700s. The designer then tried different arrangements of the bodice pieces on the digital "fabric" rectangle. Depending on the location of the bodice pieces different lower skirt pieces could be created from the remaining fabric. Ultimately, the designer decided to keep the lower skirt pieces very symmetrical like the gowns in the 1700s. The front bodice sections were placed at one edge of the fabric with the back bodice on the opposite side (see Figure 1). Two lower skirts were cut by connecting the shoulder points of the bodice fronts to the bodice backs. Finally, a hem facing was created in the center of the pattern between the two necklines.

Next, the half-scale pattern was printed, sewn, and fit on a half-scale form. A CB pleat and six darts were used to fit the bodice closely. Following some small changes to the skirt section, the designer exported the Optitex file into Adobe Illustrator where the file was scaled up to fit a full-scale size 8 dressform and the chosen piece of fabric.

When the designer went to cut the fabric it was discovered that the fabric had gotten a bit discolored at the center fold over the years. To hide the discoloration and create more visual

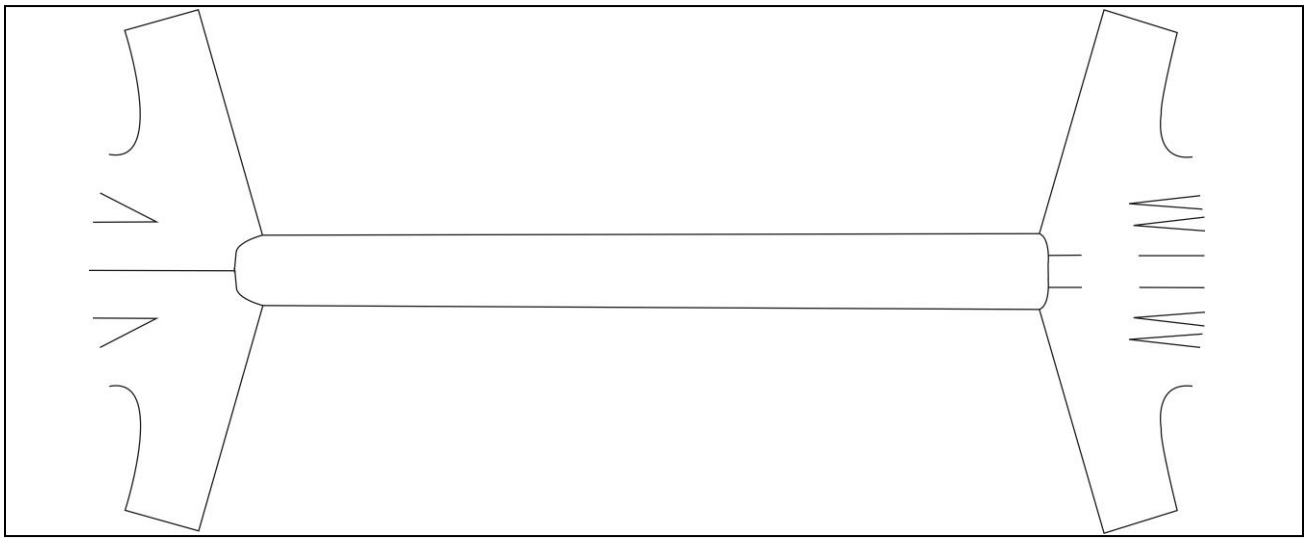
interest, it was determined that the fabric could be overdyed with purple dye. The actual cut pieces were dyed as the designer did not have a dye pot large enough to dye the uncut piece of fabric. The purple dye created more depth of color on the fabric and hid the discoloration beautifully. The coat was assembled by machine.

The coat was then free-motion embroidered using silk shantung strips and cut leaves. The embroidery was meant to be slightly fuzzy and raw as a nod to the tufted and raw edged ornamentation that was often used on polonaise and other formal gowns of the 1700s (Hart & North, 2009). The embroidery was further inspired by the curvilinear floral prints from the time period of study. Bronze, brown, silver, purple, and teal were chosen as accent colors for the embroidery because they added a nice contrast to the maroon melton and kept the design from being too historic looking. The designer drew the lines for stems onto the coat and then utilized a free motion zig-zag to stitch down the stems. The floral stems were made from small strips of silk shantung that was ripped from the fabric to create texture. Leaves were added next and finally, rosettes made from two colors of shantung were stitched on by hand.

Following the embroidery, the coat lining was inserted by machine and hand stitched at the hem and sleeves. A second, shorter skirt was added in the lining to allow the coat to be bustled up and stitched into place. A waist stay of 2” wide elastic was also added to support the weight of the skirt. A separating zipper was used to close the design at center front.

The contribution of this piece can be seen in the use of historic inspiration for a zero-waste garment. The novel approach to free-motion embroidery is also noteworthy. Future design research should continue to develop the embroidery technique and also further investigate other forms of historic garments as inspiration for contemporary zero-waste garments in an effort to be more sustainable in the fashion industry.

Figure 1: Cutting Layout



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