Bargello Slopes

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Contextual review and concept statement. Sometime in the fourteenth century, a Hungarian noblewoman that was married into the Jagiello family, created "a stitching style for peasants to use on their embroideries, which consumed scarcely any wool on the back of the fabric" (Minor, 2020, p.1). The technique came to be called 'Bargello', the general term for the aesthetic resulted from a set of orderly, formal, and disciplined variations of upright long stitches. One main pattern line of stitches is first established, and then repeated sequentially throughout the fabric, using gradients of color, creating row upon row of flowing curves made of small rectangular blocks (Coahran, 2005). Throughout the years, Bargello has experienced some creative transformations, with loyal fans within the quilting communities (Williams, 2001). In *Four Way Bargello*, needlework artist Dorothy Kaestner explored a graphic variation known as 'four-way' Bargello, a motif approach on the traditional all-over patterns (Kaestner, 1976). The complexity of creating a Bargello style pattern prompted the use of various software tools, but mainly for planning quilting blocks (Coahran, 2005).

The repetitive row-by-row nature of the Bargello patterns makes it appropriate for weft knitting, but very few knitting attempts have been found, most likely due to the complexity of using multiple colors in the same row. Patty Nance proposed using custom dyed color changing yarn, where each color is at least 10 inches long, and manipulated the knit stitch size and number of stitches in a row to engineer the Bargello vertical repeating color blocks (Nance, 2013). However, the resulting patterns can be only small sized relative to a garment, and not through the entire piece. For an entire garment, jacquard knitting technique could be used with several different colored yarns, but the back yarn floats or the double bed machine knitting technique will make the fabric too thick and waste many yarns (Radcliffe, 2008).

One of the current challenges within the knitwear industry is that of creating complex multicolor patterns by minimizing yarn consumption and time to knit, and the Bargello patterns seemed to offer an opportunity to address this challenge. Therefore, the purpose of this research was to creatively manipulate a Bargello pattern into a knitted shaped garment using intarsia technique and evaluate the design process, contributing to the limited body of knowledge on Bargello knitting.

Fig 1. Traditional Bargello design (Williams, 2001).

Process, technique, and execution. The two designers, both fashion design instructors teaching and researching design with stretch fabrications at a mid-eastern university, had a few brainstorming sessions sharing Bargello patterns and discussing fashion trends. The 3D optical effect of a traditional Bargello design (Fig. 1) was found inspirational for this challenge, and that led to an alpine ski mood, targeting a luxury customer who hangs out socializing near the ski slopes. To add textural interest as well as a sustainable approach to knitwear, mohair wool yarn was chosen, and various yarn sizes were ordered. White, black and three gray yarn gradients were picked, and knitting experiments on Silver Reed flatbed knitting machines were created. A lace weight yarn did not work well on the machine with the intarsia carriage, breaking often, therefore a worsted size yarn was selected for hand knitting, available in all five colors from a Swedish retailer, and OEKO-TEX®

certified for sustainability. A gauge swatch was knitted and DAK9 knitting software was used to manipulate each stitch of the Bargello design and approximate the original proportions while minimizing the number of yarn changes in each row. Brushing off the knit fabric surface with a metal brush brought up the mohair fibers and added textural interest.

After deciding on the knitting technique, the designers met to discuss the silhouette. A fluffy off-the-shoulders cape over a catsuit with mesh inserts captured the style of the targeted customer. Intarsia ribbed cables were knitted in gradient colors to add shape and volume to the cape, inspired by Erté sketches with grandiose cape poses (Blum, 1976). While draping the catsuit on a size 8 dress form, the designers considered adding the mesh panels in spaces that visually complemented the Bargello pattern and the cape's outline. To reduce the difficulty of cutting and sewing the curved seams, a medium weight black ponte knit was used. The meandering seams were highlighted and flattened using black heat-bonding tape, adding activewear technology to the design (Fig. 2). A long invisible zipper opens the bodysuit at center back.

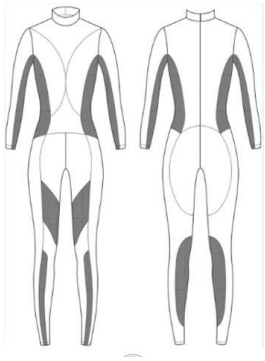

Fig 2. Catsuit flat sketches (front and back). Shaded areas are mesh and white areas are ponte fabric.

The Bargello repeat had to be changed several times to add back flare to the cape, by two methods: (1) increasing the knit stitch size by using larger needles (top of cape needle size was 2.5mm, changed to 4 mm, then to 5.5mm at the bottom), and (2) adding stitches inside the repeat to the horizontal color blocks, a total of 12 stitches at middle level and another 10 stitches at the bottom, for each of the three repeats across the back of the cape. The fullness of the cape is supported by down-the-arm cables that end in cuffs.

Both designers experienced challenges assembling the garments, resulting from the dependencies created by multiple intersecting seams. Heat bonding the curved seams of the catsuit was especially unforgiving, as the process cannot be undone. Similarly, the mohair yarn is impossible to unravel, especially after the fabric was brushed, so extra time was spent to re-knit several repeats due to errors in yarn color selection. All the yarn ends have been securely tied up and worked into the back of the Bargello pattern.

Cohesion and aesthetics. The use of a Bargello pattern as inspiration led to a dynamic and innovative silhouette. The eyes travel along the entire ensemble, guided by the use of lines, pattern and texture, and the five-color gradient adds depth to the border cables. The construction of the pieces highlights the broad range of skills of the two designers when working with stretch fabrications. The strong 3D optical illusion created by the Bargello pattern is toned down by manipulation of scale to also create shape, and by brushing of the fabric surface to slightly blend in the grays, like a charcoal drawing. The ensemble has a strong focal point from each side, engaging the viewer and creating unexpected visual effects when the wearer moves or wears the cape in a different way (see the detail picture on the last page).

Significance. This project explored the intarsia knitting technique of a Bargello pattern, adding to the limited creative scholarship based on Bargello stitches. The resulting cape is lightweight due to low yarn consumption. The collaborative design process led to the translation of the Bargello lines into innovative silhouettes, adding to the scholarship of both designers. The use of hand knitting when machine knitting was not feasible highlights the importance of keeping the instruction of this craft into the education of future designers, as a sustainable tool to develop 3D design skills (Steed, 2016). Future studies should investigate machine knitting based on Bargello patterns, making such designs for the ready-to-wear market

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