

Peplum, Purple, Prickly, Postmodern (PPPP)

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This project aimed to create a structural ensemble with a polyhedron-shaped surface using unconventional constructions and creative pattern cutting techniques derived from the Maths Art Movement (Page, 2013). The movement has been embraced by a variety of artistic and fashion directors and it is defined as an integration of creative activity with 3D geometric surfaces (Page, 2013, p. 91). Geometry, as it is the part of Maths Arts Movement, was involved in developing the present design with the shapes, angles, and dimensions of geometric shapes being used to ornament the human forms. Postmodernism is reflected in the structure of this ensemble as well. Postmodernism has had a powerful impact on visual art, architecture, and fashion and it “demands the expression of ambivalence rather than stifling ambivalence” (Kaiser, Nagasawa & Hutton, 1991, p. 166). Ambivalence, in the context of fashion, is embodied in apparel designs that have characteristics contrary to those of earlier, modernist fashions (Morgado, 1996). Accordingly, postmodernism was shown in this design through the transformation from a modern (flat/fitted surface) to a postmodern (out of the ordinary/sculptured surface). It defies tradition through unorthodox aesthetic expression and challenges assumptions of how garments should be worn. Additionally, Li Jiang’s ITAA designs (2020) provided incitement for this project with regards to textile manipulation and creative experimentation. Jiang applied a geometric concept to her designs by transforming 2D patterns into 3D patterns.



Figure 1. The globe thistles flower

The Globe Thistle flower was a source of inspiration for the dress’s silhouette and color (Figure 1). This plant from the Asteraceae family has beautiful shades of blue and purple. The flower has fascinating features that represent the shape of the dress design, including the contemporary look and spiky foliage (McIntosh, 2021). The Peplum, Purple, Prickly,

Postmodern (PPPP) design process was based on non-traditional experimentation and the development of creative patternmaking. To start the design process, a sloper (block) was drafted using a US size 6 female figure. The mathematical approach was taking in consideration to determine how to create a pattern that would echo geometric shapes seen in the globe thistle on a human form. The procedure of creating polyhedron-shaped pieces was adopted from Nakamichi’s wearing a polyhedron technique (Nakamichi, 2016). Design development began with sketching a combination of triangular, rectangular, pentagonal, and hexagonal shapes on flat bases. These shapes were not sketched randomly. Two steps were followed: a) the shoulder area was divided into 12 main sections while being sure to not divide the shoulder, armhole, and the shoulder dart; b) the front bodice was divided into 10 main sections using the bust point BP as a center of the upper part. The panels of the lower part--under the waistline--have been created by tracing the panels of the upper part. Then they have been placed upside down.

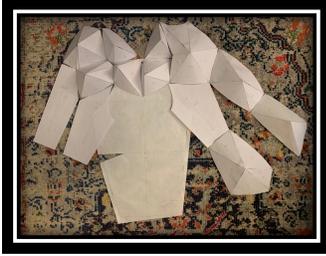


Figure 2. Polyhedron-shaped Pattern

Twenty panels out of twenty-two panels were manipulated in order to create a spiky, 3-D look. The two remaining flat panels were placed on the sides of the bodice in order to create a balanced look to behold. The manipulation has been accomplished by adding protruding points and parting lines to center the panels and divide them. The mathematical approach was highlighted in the step of manipulating the pattern of each polyhedron-shaped panel to produce a pyramid using a pair of compasses as a mathematical instrument (the compasses were used to measure distances and inscribe the arcs). The goal of this stage was to increase the volume of individual pyramid patterns by altering the length, width, depth, and angle of the shapes. Thus, when aligning these patterns to re-create the polyhedron forms, a gap – similar to a dart – occurs and has been treated like a dart to create the three-dimensional shape. Furthermore, labeling the pattern pieces was crucial to identify all the pyramids and connect them accurately. As a result, the pattern pieces of each pyramid were taped together to assess the final spiky look (Figure 2). The *PPPP* design is a knee-length peplum dress with long sleeves. The wearing a polyhedron technique (Nakimichi, 2016) was applied to the upper part of the dress. The geometrical form of the bodice and sleeves was achieved by combining sloper patterns with protruding patterns. A muslin prototype was created to guarantee the balance between protruding and flat surfaces on the body.



Figure 3. Interfacing Placement

A 53% linen/47% rayon blend fashion fabric and 100% polyester lining fabric, both purple paisley color, were cut and used for the garment. The flat and spiky sections of the front and back bodice and shoulders were attached with fusible interfacing material to stiffen the surfaces (Figure 3). The flat forms of the polyhedron pieces were transformed into pointed forms by folding the dart legs of each piece. When the creases of these forms were complete they were highlighted using gold beads and pearls. Next, the garment pieces were stitched to each other and to the lining pieces; then the two layers were connected. The garment was lined because a sculptural surface needs an even layer underneath to support the spiked shapes (Kntjarvi, 2018). A single-layer binding was created to finish the neckline, a 22” length zipper was placed on the center back for closure, and a 1.5” width belt was created using the fashion fabric and embellished with gold beads.

The contribution of the *PPPP* design is to encourage experimenting with contemporary silhouettes to challenge conventions in designing clothing and change practices and ideas of what original and authorized creativity must be. This project pushes the fashion designers to discover the principles and concepts of the styles that appeared in the late 20th century, known as postmodernism, and thus broke traditional fashion rules and departed from strictness and formalism. Also, this project gives a practical example of the Maths Arts Movement through creating a wearable piece based of geometrical pattern structures.

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