Color Play

Holly Conner

Keywords: 3D Printing, Color Theory, and Innovation

Dimensions: Bust: 36” Waist: 29” Length: 39”

Color Play is a work of wearable art inspired by color theory and implemented through 3D printing technology and draping and construction techniques. It represents the complex interactions and illusions created by contrasting colors placed in proximity to one another. By representing these interactions it also references the idea that color does not really exist, and that color is dependent on an individual’s own vision and the amount of light available to reflect from a viewed object. (Fairchild 2013) The final result of this design process was a wearable dress consisting of neoprene and 3D embellishments.

Color is a basic element of design. Usually, it is thought of only at the surface level, where colors are identified under basic names, such as “blue” and “red”. However, colors are much more complex than initial inclinations, as the word “blue” encompasses thousands of shades of blue, most of which are indiscriminate to the human eye (Skusevich & Matikas 2009). Furthermore, every human eye sees color from a unique standpoint; the lighting, angle, and individual’s quality of vision all affect which color the brain interprets an object as. Therefore, it can be assumed that color does not really exist in our world; color is interpreted in human minds as a response to a stimulus. (Hyman 2014) In a comparable way, this work was designed to provide a stimulus that elicits a response from the viewer. This response is invoked entirely within the viewer’s mind, and may be radically different than another individual’s response. Certainly, color can be very meaningful to individuals, and can invoke certain feelings, ideas, and connections. The colors utilized in the work are provided to invoke these responses and emotions.

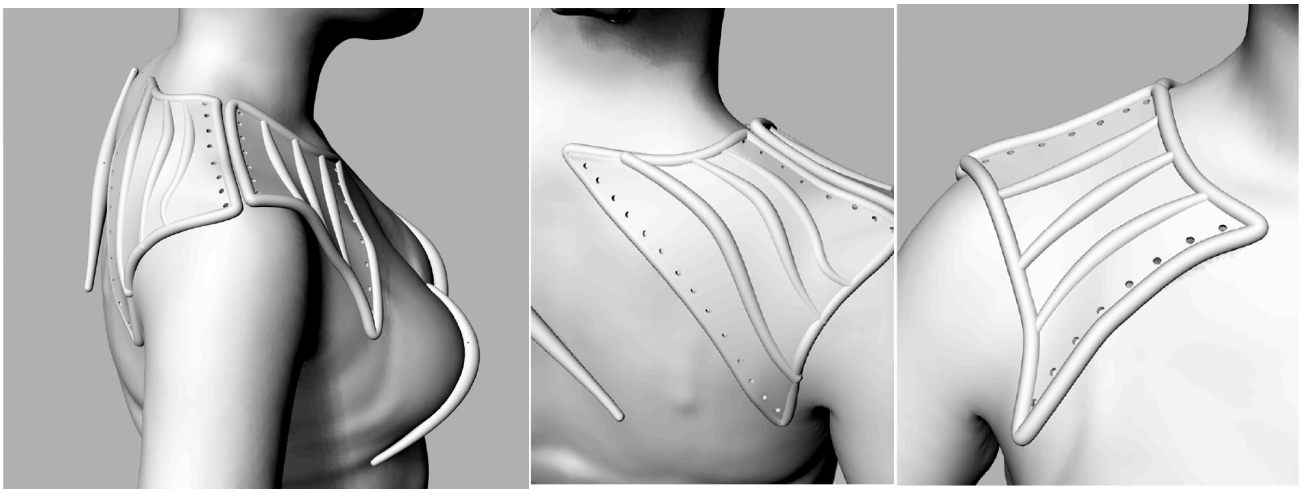
The wearable artform, *Color Play*, is intended to express the experimental and artful way in which fashion is designed. Essentially, the dress plays with and focuses on color and form, for the sake of aesthetic appeal in and of itself as an end result. By focusing on these components, the work can be viewed and interpreted subjectively by its viewers. Rather than imply a concrete meaning, the work allows the viewer to engage with its visual forms and think subjectively about the work as the work relates to his or her own unique experiences, identity, and thought processes. Essentially, the work is a blank slate for the viewer’s own stream of consciousness; its playful colors and forms allow the viewer’s emotions and memories to flow freely as they are invoked.

Rhino 5.3.2 was utilized to design the three-dimensional aspects of the final garment. A high-resolution body scan was taken of the chosen model. Then, spiraling 3D forms were aligned to the curvature of the

scanned body. These spirals were engineered with holes in order to sew onto the fabric of the dress. The shoulder piece was divided into two sections for ease of printing and for ease of movement by the wearer. These pieces were drawn directly onto the body scan, lofted, and pieced together to create forms mimicking the curvature of the shoulders. Larger holes were designed into these forms to accommodate the installation of lacing to hold the shoulder pieces to the dress. The final files were exported as .STL files and opened in Makerbot Print for final changes to infill, supports, rafts, and printbed layout. Makerbot Replicator Z18 printers were utilized to print the final structures in polylactic acid (PLA), a biodegradable polymer.

In order to create the fabric pattern, the dress was draped over a standard size 8 dress form, using muslin. Once the silhouette was satisfactory, paper pattern were created by transferring markings from the muslin and correcting them onto paper. The muslin mock-up was then created. The color blocking effects were marked onto the mock-up in this phase. The pattern was altered to accommodate the color blocking effects.

Color Play is an aesthetic outcome focusing on the color and form of the objects presented. 3D printing and body scanning technology, combined with traditional draping and patternmaking processes, were used to design the dress. This work is more than just an exploration of technology with an emphasis on the elements of design; rather, it is a reflection of the ideas of modern art and a focal point for contemplation and discussion. Its subjective visual interpretation is intended to allow the viewer to interpret the work as a reflection of his or her experiences and thoughts. In this way, *Color Play* is more about contriving meaning from external sources than having one objective meaning ("Museum" 2017).



Photos showing the design process on Rhino software, over a body-scanned figure.

References

Hyman, J. (2014). *The Objective Eye: Color, Form, and Reality in the Theory of Art.* Retrieved from https://ebookcentral-proquest-com.cmich.idm.oclc.org/lib/cmich-ebooks/reader.action?docID=616042&ppg=30

Fairchild, M. (2013). *Color Appearance Models*. Retrieved from https://ebookcentral-proquest-com.cmich.idm.oclc.org/lib/cmich-ebooks/detail.action?docID=1211852

Skusevich, D., & Matikas, P. (2009). *Color Perception: Physiology, Processes and Analysis.* Retreived from

https://ebookcentral-proquest-com.cmich.idm.oclc.org/lib/cmich-ebooks/reader.action?docID=3017908

Museum of Modern Art. (2017). In *Encyclopedia Brittanica.* Retreived from

http://academic.eb.com.cmich.idm.oclc.org/levels/collegiate/article/museum-of-modern-art/544277