Color Hearing: The Use of Psychomimicry to Inform Design Questions, Challenges, and Process

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Keywords: Psychomimicry, Textile Print Development, Design Process

Introduction/Literature Review: A designer's creative process is often difficult to share as it is filled with intricate details that are often fleeting thoughts or creative moments that are never captured but contribute to the outcome. It is becoming increasingly important for designers to share their influence (i.e. inspiration, designer knowledge, background, visual references) as well as the design process of their creative scholarship. The sharing of knowledge helps to create design scholarship that can be investigated, disseminated, and built upon. The goal of this research presentation is to share the design questions, challenges, and processes involved in establishing a body of creative design scholarship. The researcher/designer will do this by explicating a series of three garments entitled, "Color Hearing".

The body of work entitled, "Color Hearing", is focused on utilizing Psychomimicry to emulate the neurological phenomenon of synesthesia (Ridgway, 2017, 2018, & 2021). Psychomimicry is closely related to biomimicry which has been widely used in design across disciplines. The difference is that Psychomimicry uses neurological processes whereas biomimicry uses nature-inspired processes as inspiration for innovation (Jonsson, 2014). This body of creative design scholarship is purely focused on emulating synesthesia which occurs when one sensory attribute such as taste or sight leads to the conscious experience of a different sensory attribute (Ward, 2013). Chromesthesia, one form of synesthesia is commonly referred to as "color hearing," due to an individual hearing a tone that will elicit the experience of color visualization (Haack & Radocy, 1981). This phenomenon is unique to each person, and two individuals would rarely experience seeing the same color when hearing the same sound. With this in mind, the designer set out to explore the initial design challenge of using Psychomimicry to emulate chromesthesia through the creation of a digital textile print (Ridgway, 2017). Each of the garments in the "Color Hearing" series sought to answer various design questions and as the designer moved from one garment to the next the design challenges/questions became more complex. For example, design #2, *Color Hearing: Baby it's Cold Outside* (Ridgway, 2018) sought to explore: How would a *duet* be portrayed in a textile print? And how would the coding of the musical beats along with the music notes change the development of the textile print? While garment #3, *Color Hearing: Brahms' Lullaby* (Ridgway, 2021) explored: How would two distinct parts of a song be visually depicted? When multiple notes are played at once (i.e., a piano chord), how can that be visually

conveyed through a textile print? And what design elements can be used to create a connection between the design process and the audience?

Method: The designer has 10 years of experience with digital textile printing, a method of textile creation that is imperative to this creative exploration. This experience allows the designer to be intimate with the process and capable of knowing what is possible with the inclusion of this technology. As noted by Parsons and Campbell (2004), when a designer is comfortable and knowledgeable with using a piece of technology the designer's process becomes a "more linear, clearly delineated and documentable process" (pp. 89).

Therefore, the designer follows the four-stage design process as identified by Parsons and Campbell (2004). In stage one, problem identification, the designer determines the new design challenge to be explored using Psychomimicry and selects a song as the focus of the work. The designer's selection of songs is based on past work, the designer's influence, and the established design challenge. During, stage 2, the conceptualization stage, the designer researches the history of the piece of music, the composer, and the textile industry for the time in which the piece of music became popular or was written. This information contributes to design decisions such as color story and silhouette. The designer codes the piece of music to determine the number of colors which will be needed to create the textile print. Each note in the piece of music is allocated one color. The designer also does color testing for digital textile printing (using a Mutoh printer) to evaluate color story options and congruency for aesthetic preferences. Sketches of the garment silhouette are produced as low-fidelity sketches and they are often also produced digitally. It is also in the conceptualization stage that the designer searches for ways to make a direct connection between the garment and the piece of music (i.e. printing the coded sheet music as lining fabric). In the third stage, prototyping, the designer creates the textile prints in Adobe Illustrator and evaluates a variety of ways to implement the print within the garment. The designer digitally prints samples of the textile print designs and often explores the direction and placement of print within the silhouette of the garment. The designer uses both draping and flat pattern techniques when creating the garments. Finally, in stage four, the solution, the designer digitally prints the fabric, typically as a repeat print and yardage, for garment construction. The garment is then constructed. Upon completion of the garment construction, the designer evaluates the design to determine if the design challenge was met. The designer then also seeks to share their design work through submission to juried exhibitions.

Results: The designer has exhibited three creative designs at ITAA that are part of this body of work. Each artifact is considered by the designer to be art to wear and is not focused on a

specific target market. This gives the designer freedom to explore the creative process without the constraints of meeting the needs of a consumer (Parsons & Campbell, 2004). The designer was recognized by ITAA for their innovative employment of techniques and their design process is being adapted by fellow design scholars. Each of the three designs, their challenges, process, and outcomes along with visuals of the process and final garments will be shared in detail as part of the research presentation[1].

Implications/Significance/Future Research: This body of work helps to validate the use of Psychomimicry as a basis for the design process. It is a novel approach to design that needs to be further examined in additional contexts and through additional methods. Future research should explore how other cognitive processes or neurological phenomena can be visually depicted in a textile print design and/or garment. Also, design collaborations with individuals who experience these neurological phenomena will lead to a better understanding of how visual depictions can be used to convey their experiences. The main contribution of this presentation will be to demonstrate to design scholars how to build a body of creative design scholarship that focuses on the exploration of a novel and innovative process. It is important to the future of design scholarship, that designers share their work in other ways besides exhibition and the designer intends to move forward with presenting and publishing this line of work.

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