

# The Cutting Edge: Colour, Pattern and the Bezold Effect

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**Abstract:** *Colour, pattern and harmony are examined in the colour theory projects of first year students at the Atlanta Campus of Savannah College of Art and Design. This slide presentation traces the studio practice in the Foundation Studies class called Color Theory and Application. The project titled "The Cutting Edge" explores historiccultural ornamental pattern and the colour illusion known as the Bezold Effect. The artwork yields dynamic discovery and applied research of historical and period colour palettes. The time-honoured technique of papercutting is used to create pattern books and two-dimensional artwork where colour interaction and harmony is both provocative and experiential.*

**Keywords:** *color, pattern, harmony*

## 1 Project Overview: Colour Foundation

*Color Theory and Application* is the second of three required design courses in the Foundation Studies Department of SCAD Atlanta (Savannah College of Art and Design). The course is a ten-week intensive experience that examines color theory principles and emphasizes research, observation and analytical skills. The course has specific goals and objectives to prepare each student for using color and of its relevance to every major area of concentration at the college. When teaching in the Foundation Studies Department, Professors work with the broadest cross-section of the student body, where students major in wide selection of disciplines in all areas of the fine and applied arts and design.

The study of color is, by its very nature, the quintessential cross-disciplinary topic. *Color Theory and Application* introduces the freshman student to basic color concepts, color vocabulary and a working knowledge of color mixing using additive and subtractive methodologies. The physical methods of color mixing are introduced in different media, typically water-based paint and Color-aid paper where collage techniques are used for both study and for finished projects.

Students recreate color phenomena such as simultaneous contrast, optical mixing, transparency illusion and the Bezold Effect.

The Bezold Effect illusion is a particularly effective way to demonstrate color transformation using pattern. This discovery of Wilhelm von Bezold (1837-1907) refers to the assimilation effect a color's hue or value that is affected by the surround. Sometimes called "spreading," the Bezold Effect demonstrates how color perception is altered by the proximity of different colors interspersed in a design. One can dramatically change the appearance of a design simply by changing one color. The reliance on (linear) pattern to demonstrate a successful Bezold illusion facilitated my idea to create a project using historic cultural ornamental patterns as a basis for discovery and research. The project is introduced using the portfolio of colour plates from *Interaction of Color* (Josef Albers (1888-1976) as a reference tool. Viewing the original serigraphs (silkscreen prints) for study and color interpretation facilitates a deeper appreciation of the Bezold principles and the characteristic illusion and options for color interaction. Discussion of the effectiveness of this illusion and its application in painting, graphic design, web design, fashion design, animation, etc. enables the student to think broadly about the effects of color and to develop critical thinking skills across disciplines. Colour appreciation is advanced by practice, discovery and experimentation which enhances the development of the finished artwork.

## **2 Discovery and Research: Patterns of Thought**

The primary resource for research and inspiration for this project is the classic Victorian era text by Owen Jones (1809-1874), *The Grammar of Ornament*. Students self-select a historical pattern of their choice and create a colour match from the cultural ornamental text pages using Color-aid papers. The polychrome designs and the colour palette from *The Grammar of Ornament* are used for both the pattern book project and for the two-dimensional design project. Colour selection has several motives: identifying period and historical colour schemes, discovering a strong Bezold illusion from the selected color choices and to develop an increasing awareness of a personal aesthetic for colour harmony. For most students, this is the first introduction to the historical significance of a culture's attachment to an ornamental pattern style. Whether floral, calligraphic, mythical, abstract or geometrical; the study of pattern design creates connections between traditions and time. It offers a framework for understanding a culture's relationship with pattern and that of a higher power or a complex mathematical formulae. The study of pattern design from other cultures increases the student's understanding of how ornamentation was used for various purposes throughout history. Politically, ornamental patterns can serve as a construction of national and civic identity and expands thinking beyond mere decoration to indicate different cultural values, modes of communication and status. This

project encourages the student to evaluate patterns in the context of their own cultural background and awareness as a contemporary construct in visual communication. Students develop an appreciation of how motifs and colour are infused with meaning and how vital our visual experience is of appreciating the world through color and surface treatment.

### 3 Design Translation: “The Cutting Edge”

The time-honored folk craft of paper cutting has a long history that evolved across the globe as early as the sixth century and presently enjoys a revival of interest for contemporary artists. The work of modern and contemporary artists like Henri Matisse (1869-1954) and Kara Walker (b. 1969) utilized cut paper that resonates with innovation and visual complexity. The cut-outs of Matisse were a dramatic approach to using color and ornamentation and I evolved this project, *The Cutting Edge*, with these historical precedents in mind. The directness of the technique, cutting layers of Color-aid paper, and the process of translating and hybridizing a complex pattern design will be discussed in detail in my slide presentation. The final projects were resolved in several ways: as an accordion book format for the pattern book and a monogram design book or as a two-dimensional graphic work where the color effects and pattern language display a remarkable sophistication.

### 4 Examples of Pattern Books and Two-Dimensional Designs

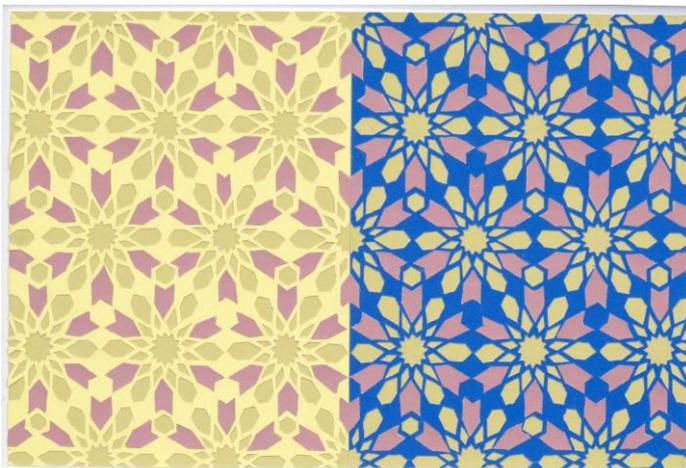


Fig. 1. “Islamic Pattern: Bezold” Sae Bull Lee, 2011, Color-aid paper, 22.9 x 30.5 cm ,



Fig. 2. "Monogram Pattern Book: Bezold" Heidi Eisenberg, 2012, Color-aid paper, 22.9 x 61 cm

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The Bezold effect is an optical illusion, named after a German professor of meteorology, Wilhelm von Bezold (1837–1907), who discovered that a color may appear different depending on its relation to adjacent colors. It happens when small areas of color are interspersed. An assimilation effect called the von Bezold spreading effect, similar to spatial color mixing, is achieved. The opposite effect is observed when large areas of color are placed adjacent to each other, resulting in color contrast. Duetriangle SpytDragonFyre 1 0 Bezold-Color Dominance OrionSTARBOY 1 0 Color Thoery Final JonChung 0 0 Pattern - Bezold Effect Desert-Star 0 2 Bezold Effect part1 gderanidaye 0 0 Bezold Effect Project hobbezdagreat 0 1 The Bezold Effect twistkick 0 5 Bezold Effect part2 gderanidaye 0 0 my simple bezold yeng07 0 0 bezold seedless watermelon col. sQ-uh-saurus 0 6 Save the World DavisLindsay 0 0 Bezold Effect gothic06 0 0. ©2019 DeviantArt. All rights reserved.