Power of Color: Applying Biophilic Principles to Visual Art

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Abstract

This study explores color theory and its manifestations in visual art, uniquely anchored in the dynamic interplay of biophilic principles and cultural contexts, specifically within the terrains of Xinjiang and Gansu. Emphasizing the profound role of biophilia, the research accentuates the emotive potential of color in visual art, enriched by a spectrum of stylistic diversities, avant-garde techniques, and meticulous material choices. With a theoretical foundation in biophilic design, the study examines the intricate balance between nature and culture, manipulating color and diluent proportions to evoke the quintessence of local environments and traditions. Moreover, this paper illuminates the democratization of visual art, championing its therapeutic capacities. It ardently advocates for an interdisciplinary fusion - marrying sociology, visual art, and philosophy - to both amplify and refine the future trajectories of color-centered visual art. In doing so, it positions biophilia as an indispensable lens for understanding and innovating within the broader scope of visual art and cultural interpretation.

Keywords: Biophilia, Color Theory, Geographical Context, Power, Visual Art

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Introduction

The integration of geography, color, and design is becoming increasingly prevalent (Hawkins 2013). Research from China reveals that cultural constructs often reflect physical landscapes (Wen & White 2020). For instance, the unique geographical characteristics of China, from Heilongjiang's golden waterways to Xinjiang's sacred sights, mirror the complex interplay between the permanent facets of cultural heritage and the shifting dynamism of the Earth's landscapes (Sheng et al. 2022; Zhang 2023). These multifaceted elements also extend to the domain of color, a crucial component of societal narratives and national identities. Each country harnesses colors to express collective emotions, hopes, and memories. The choice of these hues is influenced by geographical location, climate, cultural customs, and social norms (Gribkov & Petrov 1996; Madden, Hewett & Roth 2000). These factors combine to create a kaleidoscopic patchwork, each nation expressing its unique chromatic power. A prime example of this phenomenon is the Danxia landform in Zhangye City, Gansu Province (Hua 2020). Its unusual geological features present a mesmerizing spectrum of colors. These form a visual tableau that underlines the inherent beauty of the planet, manifesting a testament to Earth's dynamism (Li & Cao 2022). At the heart of this observation is the principle of biophilia - the innate human affinity for and connection to nature (Wilson 1984). This draws attention to how such geological marvels not only showcase Earth's beauty but resonate deeply with the inherent human longing for natural elements, an emotional tie that accentuates color's energy.

This paper endeavors to bridge the gap between Earth's dynamic geological changes and human cultural practices. By focusing on the symbolism and energy embodied in the use of color, the interaction of geographical and cultural elements will be investigated. Crucially, this study will also emphasize the importance of biophilic connections in shaping our interpretations and feelings towards these colors and designs, proposing that our intrinsic attraction to nature significantly informs our cultural and aesthetic preferences. Further, the amalgamation of the inherent energy of nature with long-standing cultural customs will be presented through abstract visual art, created using mixed acrylic paints. Two central concepts underpin this study: power and color. The term power encompasses the visible and invisible forces shaping the Earth, including physical elements like seas and volcanoes, as well as culturally assigned meanings, such as those found in festivals and climate. Color, on the other hand, symbolizes the inherent diversity found across different countries,

ethnic groups, geographical locations, and cultures (Morton 1997). Interwoven with these elements is the third pillar, biophilia, shedding light on the undeniable draw that nature and its varied hues have on human psychology, emotional well-being, and aesthetic inclinations.

This study is grounded in key theories linking biophilia, color theory, and cultural symbolism. Biophilia suggests an inherent human affinity for nature, influencing psychological health and creativity, which is crucial to our approach to biophilic design in visual art (Fromm 1963; Wilson 1984). Color theory then provides the framework for understanding color interactions and their psychological and emotional impacts, essential for assessing the expressive power of art (Albers 1963; Itten 1973). Additionally, the integration of the Five Elements Theory from Chinese philosophy assigns colors to elemental life aspects, infusing cultural meanings into visual representations. These theories collectively guide our exploration of how biophilic principles intersect with cultural and color dynamics, forming a cohesive theoretical foundation for examining their combined impact on visual art. Ultimately, this study aims to advance understanding of the forces shaping the world and the relationship between nature's energy, beauty, and cultural color symbolism. By doing so, it contributes to the academic discourse in the field of visual art, pushing the boundaries of how the natural world's dynamism can inform cultural practices and visual expression. This will unravel not just the what and the how, but the why, spotlighting the profound biophilic interactions that play an essential role in our perceptions of color and nature.

Literature Review

1. Biophilia: Nature and Design

At the intersection of design and nature, it is essential to consider the profound impact of landscape aesthetics, a dominant theme recurrently captured in the art and design discourse. The intricate relationship between natural elements and aesthetics evokes feelings of tranquility, transcendence, and balance, which artists and designers have long sought to harness in their work. The energy of nature in landscape aesthetics is not just confined to the visual attributes, but is intrinsically linked to the psychological and emotional impact, creating an immersive and transformative aesthetic experience. Chinese artists, deeply rooted in Taoist and Buddhist ideologies, have long demonstrated an understanding of this energy in their landscape art, integrating the use of color to evoke a sense of balance and harmony.

When dissecting the theoretical underpinnings of the energy derived from nature

in visual art, a crucial aspect to consider is the concept of 'biophilia'. Fromm (1963) and Wilson (1986) independently proposed the biophilia hypothesis, arguing that humans have an innate and genetically driven affinity for nature and natural forms (Barbiero & Berto 2021). Designers and artists often draw upon this predisposition to construct designs that echo the inherent structures and patterns found in nature, from the branching veins of a leaf to the fractal patterns of coastlines and clouds (Sachs 2022). The visual depiction of these natural elements serves to provoke a sense of connectivity, grounding, and familiarity, and thus can be powerful in impacting perception and behavior (Kellert 2018). In addition, the concept of 'vitality affect' proposed by Daniel Stern (2010) is pertinent, suggesting that the dynamic qualities of natural forms and their rhythmic, harmonic patterns stimulate an embodied resonance in the viewer, imparting a sense of vitality and aliveness.

There is a clear academic consensus on the importance of biophilic principles to physical and mental health and well-being. Throughout human history, our relationship with nature has been crucial to our overall wellness. A plethora of scientific studies highlight that consistent interactions with nature can yield substantial improvements in stress reduction, blood pressure regulation, pain relief, recovery acceleration, and even enhance mood and performance in professional settings like healthcare (Annerstedt & Währborg 2011; Katcher & Beck 1983; Kellert 2012; Ryan et al. 2014). The emphasis on visual elements, such as serene natural landscapes or even the simulation of natural features, can considerably elevate our mood and psychological well-being. Surprisingly, something as simple as a room with a view of nature has been shown to facilitate faster recovery from illnesses and reduce the need for pain medication (Ulrich 1993; 2008). However, due to urban lifestyles, this critical contact with nature is dwindling, particularly in the light of the urban shift in global population trends (Turner, Nakamura & Dinetti 2004; Worldbank 2019).

From an evolutionary perspective, biophilia's roots are traced back to the lengthy timeline of human evolution. A striking fact to consider is that for more than 99% of our species' history, humans evolved in response to natural forces rather than the human-engineered environment we are accustomed to today (Wilson 1986, Kellert 2018; Kellert & Calabrese 2015). The increasing disconnection from nature poses a unique challenge: the urban spaces we inhabit must be designed to evoke our biophilic instincts (Beatley 2011; Hartig & Kahn 2016; Söderlund 2019). Contemporary settings and conveniences like mass production and electronic technology have been recent additions in our evolutionary journey. Studies like the one conducted by Arne Öhman (1986) underscore the depth of our inherent

inclination towards nature. Participants in this study subliminally exposed to images of snakes and spiders demonstrated averse reactions, in stark contrast to their indifferent response to modern threats like handguns and exposed electric wires. This evidence accentuates the power of visual elements in eliciting deep-seated human responses, making visual art rooted in biophilic principles even more crucial. Biophilic design offers a solution, aiming to mirror natural environments within urban settings (Browning & Ryan 2020).

Yet, there is an evident dichotomy in our modern application of biophilia. Even though humans have evolved in nature, our contemporary reality is predominantly indoor-driven. As a consequence, the very spaces that should provide respite, such as our homes, workplaces, and healthcare institutions, often mirror the sensory-deprived enclosures of old-fashioned zoos. Despite our biological tendencies, the design paradigms of the modern built environment frequently disregard nature, either treating it as an obstacle or relegating it to insignificance (McGee et al. 2019). In the realm of visual art, this manifests predominantly in the choices of images, patterns, and color palettes that lack the essence of nature. The irony lies in the fact that while we have recognized and rectified inhumane conditions for animals, such as barren cages, similar sensory-deprived conditions still persist for humans in many modern architectural designs, particularly in the digital and visual media that increasingly dominates our lives.

The integration of color theory in the portrayal of nature's energy in visual art ties these concepts together. The use of color provides a potent tool to intensify the impact of nature's depiction in design. For instance, hue can influence perceived temperature and depth, while saturation can alter the perceived intensity and vitality of a natural scene (Fortner & Meyer 1997). Complementing these, the attribute of value can provide a tangible sense of light and dark, further amplifying the dramatic expression of nature (O'Connor 2023). This judicious use of color can evoke a range of emotional responses, playing a vital role in expressing the inherent power of nature. Through strategic choices in color, artists and designers can effectively capture the dynamic interplay of light and shadow, the transient moods of a landscape, and the inherent vibrancy of flora and fauna, thus breathing life into their representations of the natural world. This intricate dance between color theory, the energy of nature, and landscape aesthetics demonstrates how these elements collectively shape visual and emotional interaction with design.

2. Color Theory

Color theory, a practical guide to color mixing and visual effects of specific combinations, plays a vital role in visual art (Best 2017; Jasper 2014). At its core are three color categories - primary, secondary, and tertiary - based on the color wheel (Mollica 2013). In additive color models, used in light-based mediums like computer monitors and stage lighting, colors are formed by mixing different hues of light, specifically red, green, and blue (Nowak & Kościelniak 2019). This combination creates secondary colors: cyan, magenta, or yellow. Subtractive color models, used in paints and pigments, create colors by filtering parts of the visible spectrum (Ibraheem et al. 2012). Color theory also encompasses color planning, which relates to color matching in design fields such as graphic design, industrial design, and fashion design (Hsiao & Tsai 2004). For example, common color schemes like black-white and red-blue are strategically chosen to achieve a certain effect or mood. The color wheel, a tool of color science, visualizes these combinations and their relations (Parkhurst & Feller 1982). Complementary colors, located at opposite ends of the color wheel, create high contrast, while similar colors, located adjacently, create harmony. Additionally, colors are classified as warm or cool, with reds, oranges, and yellows being warm, and greens and blues being cool. Beyond basic hue, colors also possess saturation and lightness, denoted in the HSL (Hue, Saturation, Lightness) or HSV (Hue, Saturation, Value) models (Marcu & Abe 1997). The color displayed by a surface is determined by the color it reflects in the electromagnetic spectrum. Tones of color are created by mixing a hue with a neutral color, thereby reducing chroma while preserving hue. This principle aids in achieving varying degrees of lightness and darkness, adding depth and complexity to the artistic and design work.

Yet, in traditional color theory, three fundamental attributes dictate the perception and interpretation of color: hue, saturation, and value (O'Connor, 2021). This framework, which has become integral to design practice and education as the profession has evolved, often relies on color models, charts, and illustrations to explicate these attributes (Gage 1995; Gage 2000). Significantly, the transition from small-scale craft industries to large-scale mass production during the Industrial Revolution marked a shift in the practice of design, with elements of multiple design styles coalescing and pattern books serving as guides (de Noblet 1993; Hauffe 1998; Raizman 2003). The lack of design standards proved problematic, leading to a wave of design reform that coincided with advancements in industry, manufacturing, and design education (O'Connor 2021).

During the mid-nineteenth century, the advent of digital design technologies and the increased availability of pigments significantly transformed the use of color in design (Delamare & Guineau 1999). Notably, the development of the collapsible metal paint tube improved the accessibility and application of pigment color, thereby addressing the issue of unstable color intermixing (O'Connor 2021). As the design field progressed into the twentieth century, traditional color theory and design education adapted to align with industry, manufacturing, and printing technology changes. The rigidity of earlier color theories was replaced with practical guidelines that emphasized individual creativity and an informed, intuitive approach to using color, as seen in the theories of Dow (1913), Ross (1919), and Parsons (1921), and later Albers (1963) and Itten (1973). Contemporary traditional color theory spans four main areas: color industries, technologies, and applications; color (re) production; color humanities; and color aesthetics (O'Connor 2023). O'Connor (2021) points out that while this theory has garnered criticism, much of it is centered on hue-related constructs, with a lack of correlation with color science.

3. Color and Meaning in China

It is important to delineate the contrasts in color interpretation between Western colorimetry and traditional Chinese painting. Colorimetry, grounded in the scientific evaluation of color, focuses on quantifiable metrics such as hue, saturation, and brightness, which are universal and consistent across different contexts. In contrast, Chinese painting interprets colors through a cultural lens, where each hue embodies deeper symbolic meanings often connected to philosophical or spiritual elements. For example, black in colorimetry is simply a shade with no light, whereas in Chinese culture, it represents water, mystery, and the infinite. To facilitate a clearer understanding of these distinctions, the following table contrasts specific colors and their interpretations across these two frameworks.

Table 1 Comparison between color interpretations in colorimetry and in Chinese painting

Color	Interpretation in Colorimetry	Interpretation in Chinese Painting
Red	Color with the longest wavelength	Symbolizes good fortune, joy, and prosperity
Green	Mid-spectrum color, calming	Represents renewal, life, and harmony

Color	Interpretation in Colorimetry	Interpretation in Chinese Painting
Blue	Color of short wavelength	Signifies healing, trust, and tranquility
Black	Absence of light	Associated with water, depth, and wisdom
Yellow	Color of light, warm	Symbolizes earth, royalty, and nurturing
White	Total reflection of light	Represents purity, mourning, and humility

The aforementioned color theories are all predominantly Western constructs, yet there are influential color theories in the Eastern world that have also influenced this investigation. The Five Elements Theory, a fundamental concept in ancient Chinese Taoist philosophy, ascribes distinct characteristics and colors to each of the elements, thereby symbolizing various aspects of life and the world (Lee 2012). The theory divides everything into five dynamics via yin and yang evolution: water (moisturizing), fire (inflammation), metal (convergence), wood (stretching), and earth (neutralization). Corresponding colors include white for metal, green for wood, black for water, red for fire, and yellow for earth, all of which carry profound symbolism. White, linked to the West, denotes justice, purity, dignity, integrity, and youth, symbolizing the space between heaven and earth, sunlight falling, and purity. Green, tied to the East, embodies life, symbolizing the birth and growth of all things. Black, associated with the North, conveys incorruptibility, solemnity, seriousness, boldness, calmness, and loneliness, representing the dim and opaque vision akin to deep waters. Red, affiliated with the South, signifies greatness, enthusiasm, loyalty, joy, fear, danger, enthusiasm, the blazing fire, and the sun. Finally, yellow, representing the earth, signifies the land and brightness, akin to the color of sunlight. These colors, representative of the Five Elements, form an integral part of traditional Chinese culture, shaping the values of ancestors and their understanding of the universe (Kaixiang & Xioahong 2020).

Across the breadth of Chinese history, and contrary to the conclusions of both Yu (2014) and Zhou (2022), the color blue evolved to symbolize varying aspects of socio-political status, cultural exchanges, and artistic traditions. In the Tang Dynasty, blue - a hue derived from precious Persian cobalt oxide - featured in Sancai ceramics, signifying cultural exchange

and rarity (Wood et al. 2007). The Song Dynasty associated blue with purity and elegance in Ru porcelain, as well as emotional depth in love themes. As an indicator of rank in official clothing, blue embodied power and prestige (Yuan & Liu 2021). During the Yuan Dynasty, blue reached artistic sophistication with the advent of Yuan blue-and-white porcelain, fostering cultural pride (Gerritsen 2012). In the Ming Dynasty, the blue in official uniforms came to denote power and strict adherence to the rules (Zujie 2007). The Qing Dynasty saw blue as a symbol of cosmic balance, representing water against the Dynasty's elemental association with fire (Wang, Wang & Shamey 2021). Finally, Xinjiang's blue, often found in Uyghur architecture, conveys purity, tranquility, and a yearning for freedom and the ocean. Thus, the symbolism of blue in China, transitioning through various historical periods, stands as a testament to its rich, multifaceted cultural and artistic heritage.

4. Design Influences

The investigation at hand draws influence from three distinguished artists: Yves Klein, Jackson Pollock, and Laura Milnor Iverson, each contributing unique design elements to the study (Figure 1).

Figure 1. Three influential artworks on this investigation: (left-to-right). a) Yves Klein, 'No.125 Anthropometry', 180x270cm; b) Jackson Pollock, 'Convergence', 242x399cm; c) Laura Milnor Iverson, 'Cormorant fisherman at sunrise', 73.7x92.1cm.
Sources: IDEAT Ideal Home 2019, VertuGallery 2022; Artnet 2018)

Klein, known for his exceptional engagement with the color blue, resonates with the investigation through his pioneering "Anthropometry" series. His judo-inspired use of body forms, creating abstract, human-sourced marks and the introduction of "Klein Blue" underscore the significance of body movement and color symbolism in artistic expression. This method bridges the gap between humanity and the boundless void, imbuing the study with an exploration of irregular forms and the emotive energy of intense hues. Pollock, a figurehead of the abstract expressionist movement, lends the study an appreciation for

unrestricted line use and color harmony. Known for his enormous canvas works and distinctive brushstrokes, Pollock harnessed colors, lines, and textures to convey his rebellious nature and the spirit of freedom. Emulating Pollock, the investigation will incorporate free form lines and intentional color harmonies, enhancing the expressive potential of the artwork. Iverson's contribution comes through her evocative acrylic landscape paintings, which emphasize the flow and fluidity of the scene. Her work, such as Cormorant Fisherman at Sunrise, resonates with viewers differently based on their individual experiences. Incorporating her technique and sense of flow will lend the investigation's output a dynamism and depth that appeals to a broad audience, suggesting that art can be an individualized, experiential journey. These artists collectively provide the investigation with a profound exploration of color, form, and expression, setting a foundation for artwork that challenges the conventional and resonates with the viewer on a deeply personal level.

Methodology

This study integrates documentary analysis with a procedural design method. The fundamental aim is to investigate the profound interconnection between the power of color and its representations, specifically within a Chinese cultural context. Inspired by the emotional and psychological connections humans have with natural environments, the data collection phase incorporated multiple sources to formulate a well-rounded perspective on color theory and symbolism. Foundational theoretical knowledge was gathered from colorimetry books, online historical Chinese documents, and digital platforms. The unique color symbolism of blue, as observed in various periods and elements of Chinese history and culture, served as the focal point. Data was supplemented with visual resources like high-altitude documentaries and photography of geographical locations, particularly the Danxia landforms in Gansu Province. These resources, reflective of the biophilic principles, were pivotal in gathering inspiration for the design elements.

The data analysis stage dissected the gathered data across three key facets: thematic analysis, form symbols, and techniques. This analysis elucidated the energy and significance vested in color, allowing for the translation of these insights into the visual design process. This fusion of theory and practice was integral to the study, underlining the potential of color to communicate power within design. In particular, the evocation of biophilic responses was considered, exploring how the natural elements in color can resonate with viewers on

a deeper, intrinsic level. The design process commenced with sketching, a vital stage in visual design for conceptualizing and testing design elements and color combinations. The generated sketches served as miniature blueprints, aiding in the refinement of abstraction and style.

To ensure methodological rigor in the color selection process for the visual arts creation, this study employed a systematic color analysis technique using the CIE (Commission Internationale de l'Eclairage) colorimetry system. This system quantitatively defines color in a way that mimics human vision, utilizing CIE XYZ coordinates to ensure precision in color perception and reproduction. Before the actual creation of artworks, preliminary color studies were conducted using digital color analysis tools, which provided detailed assessments of hue, saturation, and lightness. These tools enabled the identification of culturally resonant colors while ensuring that their visual impact was scientifically grounded. The colors thus selected were vetted through this dual approach - balancing empirical data with cultural symbolism - to validate the appropriateness of color choices for the artworks.

The next phase was the actual design creation, where the techniques drawn from the analysis stage were applied. Drawing from biophilic design principles, the use of tools such as hair dryers to mimic natural elements within the design, and the application of blending liquid and resin glue to enhance color vibrancy, served to imbue the design with the desired expression of power. This methodology showcased a design process that is deeply rooted in research and analysis, leading to a nuanced understanding of color theory, symbolism, and their applications in visual design. This approach allowed for the creation of powerful designs that were not only visually compelling but also steeped in cultural, symbolic and biophilic significance.

Results

This section presents analysis of the experimental data, studying the power of color and its manifestations in different works. We created pre-thesis and thesis creative works, focusing on the progression, concepts, form, results, and areas of improvement for each piece.

1. Pre-Thesis Creative Work

Pre-Thesis Work 1, titled No. 1, explores the idea of power as perceived through natural elements, focusing on the view of the sea from a high altitude (Figure 1). Analysis

reveals the impact of the selected color scheme and the form chosen to represent the concept. The green tones added to signify organic matter and the vortex shape used to depict power are intriguing aspects. Further, the addition of white to signify the wind direction lends the artwork an inherent sense of flow, mirroring Van Gogh's Starry Night and expressing the unruly yet harmonious power of nature.

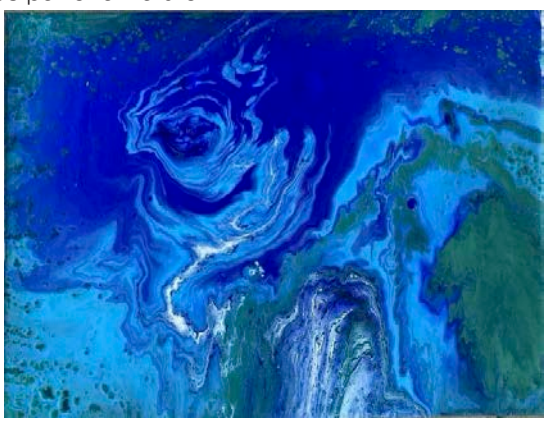

Figure 1. Pre-Thesis Work No. 1

No. 2 presents an integration of the geographical attributes of the Yellow Earth region with the artist's sentiments (Figure 2). The use of meandering lines and deep colors along with a blending agent uniquely showcases the power and beauty of acrylic paint. The interplay of blue, orange, and brown gives a sense of power with multiple meanings. A critical improvement area identified is the need to incorporate personal ideas and add depth to the color system.

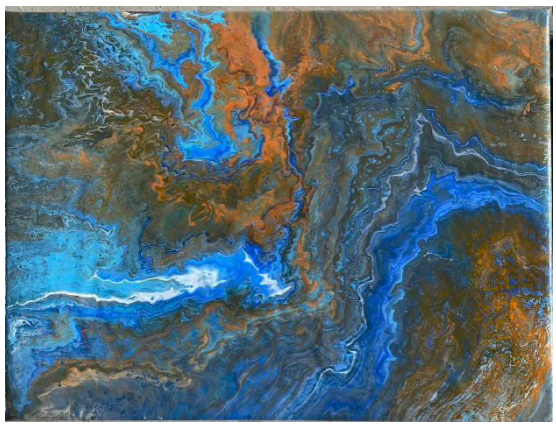

Figure 2. Pre-Thesis Work No. 2

Pre-Thesis Work 3 and 4, titled No. 3 and No. 4, exhibit a strong personal style and an abstraction of natural elements respectively (Figure 3). No. 3's dark blue and pink color scheme with deep orange is used to express the duality of strength and beauty, while in No. 4, the waves' representation depicts a lively youthful power. Both pieces suggest room for additional detail, and the importance of maintaining the right balance between color choice and image scale is highlighted.

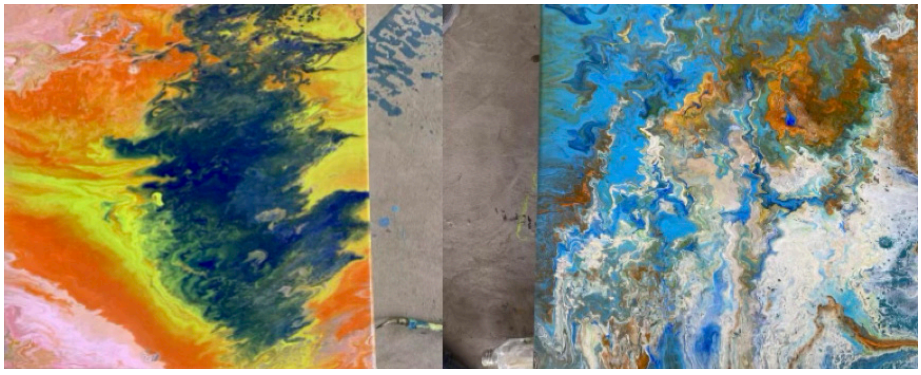

Figure 3. Pre-Thesis Works No. 3 and 4

In the latter two Pre-Thesis works, No. 5 and No. 6, the author leans into the cultural theory of color (Figure 4). No. 5 blends the sea's image with the Xinjiang desert, using warm colors to imbue the picture with energy. No. 6, on the other hand, draws inspiration from the sea's calm flow during a storm and the melting ice's slow stream, demonstrating the fluidity of the artwork. The use of more diluent to allow free flow of pigments is an innovative technique seen here.

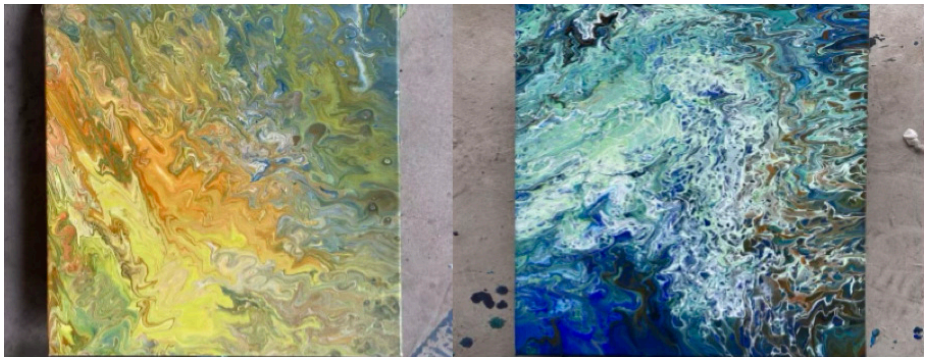

Figure 4. Pre-Thesis Works No. 5 and 6

The final Pre-Thesis work, No. 7, encapsulates the scene from behind a car window on a rainy day, adding a hazy sense of flow to the work. It brings together color-related cultural and festive aspects to express the power and beauty of nature. This work emphasizes exploring related concepts or similar works to deepen understanding of the art form.

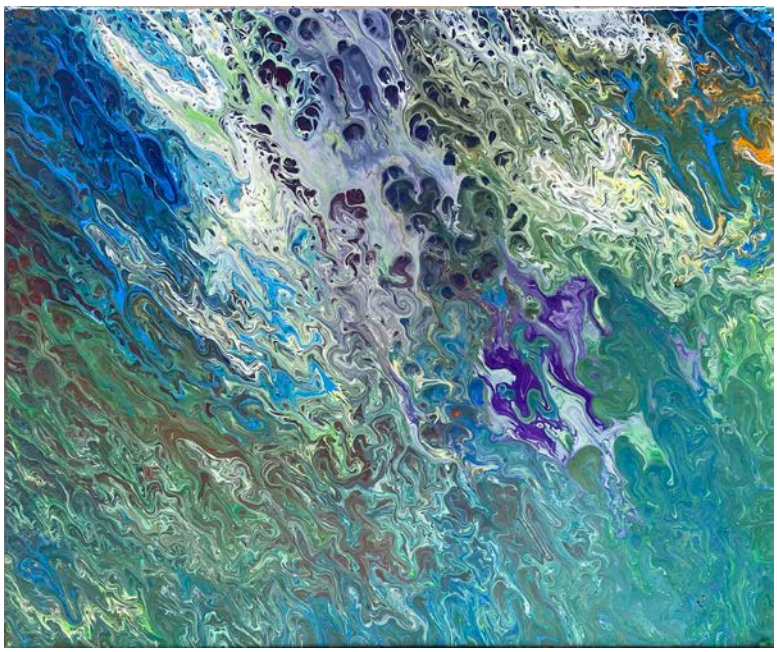

Figure 5. Pre-Thesis Works No. 7

2. Thesis Creative Work

The Thesis works primarily focus on geographical and cultural themes, combining Chinese legendary beasts and landforms to express nature's creativity and Chinese culture's power. Thesis Work 1, titled Power of Color: Dragon, Phoenix, and Tortoise, is inspired by high-altitude landform maps of Xinjiang and Gansu (Figure 6). The representation of different geographical, climatic, and temperature conditions through color variance is a striking attribute of this work. Additionally, incorporating legendary beasts symbolizing spiritual beliefs adds an extra layer of complexity, expressing the power of nature and culture.

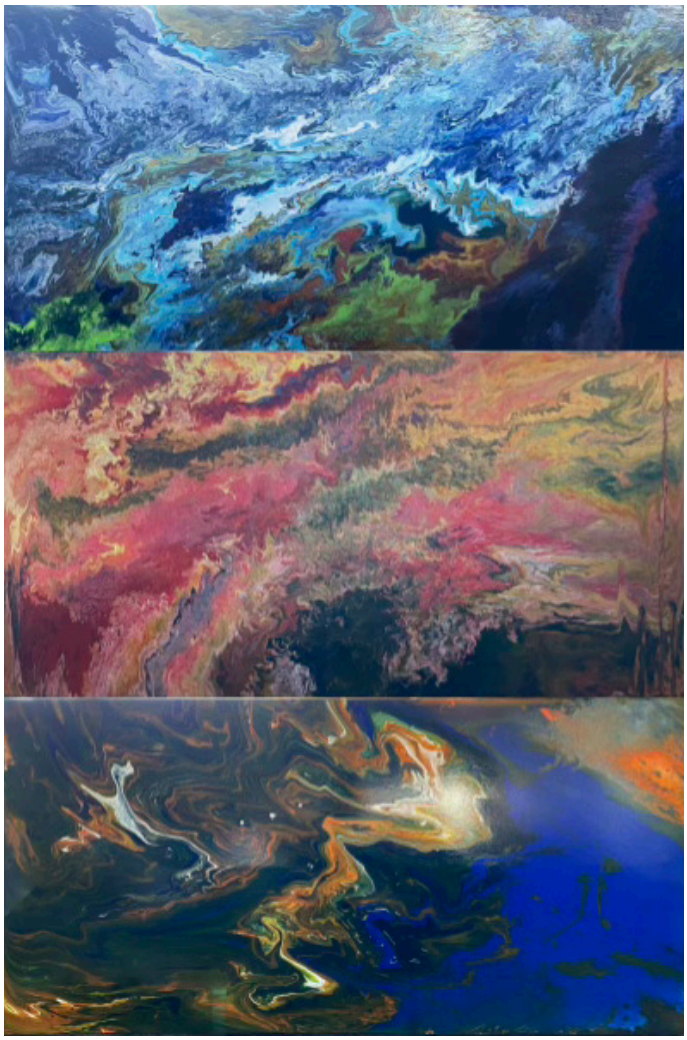

Figure 6. Thesis Work 1

Thesis Work 2 focuses on color-related festivals from India, Japan, and China, embodying the universal hope associated with color usage (Figure 7). By extracting strength expression methods from different cultures, the series symbolizes cultural integration and societal power. Finally, Thesis Work 3 explores Gansu and Xinjiang's lines of topography and historical factors to present a color palette reminiscent of Tang Sancai (Figure 8). It implies a common memory for the Chinese people, reminding them of Gansu's historical and cultural significance and prompting them to revisit their heritage.

Figure 7. Thesis Work 2

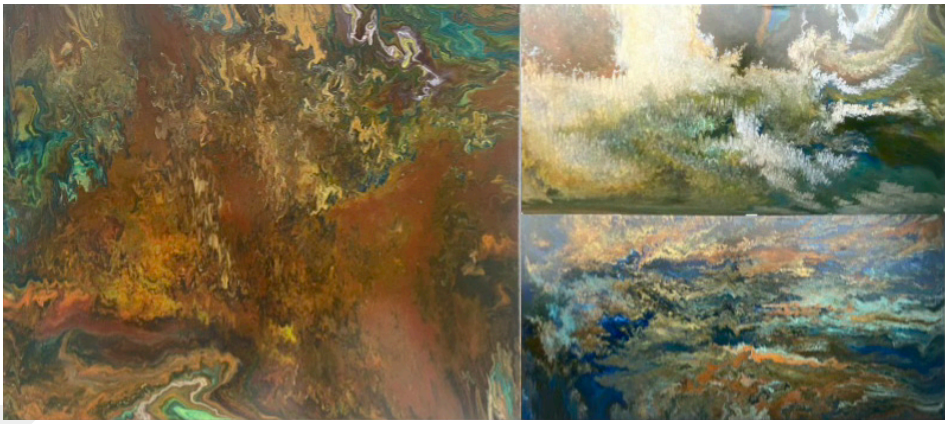

Figure 8. Thesis Work 3

Overall, both Pre-Thesis and Thesis works build a comprehensive understanding of color's power, unraveling the interplay between natural and cultural elements and the role color plays in manifesting power. It is evident that the choice of color, form, and concept has a profound impact on the work's result, and careful consideration of these aspects is necessary to improve and refine future works.

Discussion

This body of work presents an exploration of color and its manifestations within the geographical and cultural contexts of Xinjiang and Gansu, highlighting how color symbolizes natural and social power across different cultures. This study demonstrates an amalgamation of numerous factors such as style, technique, materials, and the cultural and geographical implications of color, highlighting the author's progression from a global to a local perspective. The authors' creative process began with extensive sketches to experiment with color's unique conveyance in visual art. In distinguishing between the Pre-Thesis and Thesis works, a critical aspect lies in the deeper integration of cultural themes within the Thesis works. While the Pre-Thesis creations explore the emotive and psychological responses elicited by natural elements through color, the Thesis works pivot significantly towards embedding these color interactions within specific cultural narratives of Xinjiang and Gansu. This transition is marked by an enriched exploration of local legends, historical art forms, and cultural symbols, such as the depiction of Chinese mythical creatures and traditional landforms. These elements are not merely aesthetic but serve as conduits for encapsulating the profound spiritual and historical resonances of the regions depicted. In doing so, the Thesis works offer a layered narrative that interweaves the intrinsic energy of nature with the enduring legacies of cultural heritage, thus presenting a more nuanced and culturally contextualized articulation of the themes previously developed in the Pre-Thesis phase. This progression reflects a deliberate shift from a broad exploration of biophilic design principles to a focused articulation of how these principles interact with and are expressed through specific cultural frameworks.

The transition from a universal perspective to a more localized one underpins the study, where the author initially views the Earth from a cosmological standpoint, then zooms in to China, and subsequently to Xinjiang and Gansu. This approach underscored the systematic and methodical aspect of the author's creative process, which was imbued with a comprehensive exploration of style, technique, materials, and the cultural and geographical implications of color. Zhang (2023) postulates a profound influence of Chinese culture on Xinjiang art, which can be translated into the domain of visual design. This study harnesses that cultural strength, incorporating color theory to present the geographic and cultural contexts of Xinjiang and Gansu (Albers 1963; Itten 1973). The rich visual design, featuring vibrant hues and varied styles, exudes the social and natural power embedded in the cultural representation

(Madden, Hewett & Roth 2000; Zhou 2022). The literature by Gage (1995; 2000) corroborates that color and culture are intertwined, which is evident in this study's transition from global to localized perspectives, intricately portraying the implications of color.

Diverse and multicultural elements informed the authors' creative process, blending different nations' social forces and climates, exploring color and line emotive power, and examining the dynamics of various national festivals. The authors' increasing fascination with color and its intersection with cultural theory helped amplify the artworks' emotive impact, thereby symbolizing strength and hope. The application of biophilia, as conceptualized by Wilson (1986) and Kellert (2018), serves as a foundation, emphasizing the inherent human need to connect with nature and living systems, which is echoed in the visual representation of the colors and designs. The data analysis results present an understanding of color application in various domains, emphasizing consistent alignment with theoretical principles. The authors adopted non-traditional techniques, such as discarding the brush and controlling the painting's naturalness through holistic techniques, to ensure the artworks resonated with the theme and elicited authenticity. The portrayal of power and beauty in an irregular and abstract expression of nature emerges as a consistent theme throughout. This exploration of color and its emotive power was grounded in the principles of color design (Best 2017; Mollica 2013). By integrating multicultural elements, the authors have been able to amplify the emotive impact of the visual designs, demonstrating the influence of color theory in a cross-cultural context (Jasper 2014; Yu 2014). Moreover, the innovative techniques adopted in this study, like discarding the brush for more natural techniques, echo Hauffe's (1998) and de Noblet's (1993) emphasis on the evolution and impact of industrial design, further showcasing the evolution of visual design in the hands of culturally diverse artists.

The creative results reflect the power of nature in abstract form, intertwined with the author's material usage. It is noteworthy to underscore the inherent biophilic tendencies expressed in these artworks, portraying the deep-rooted human bond with nature (Wilson, 1986). The concretization of the power theme is seen in the transition from data collection, analysis, and research to actual artwork creation. The artworks breathe life, capturing the harmony between cultural diversity and the integration of world culture and nature. Drawing from the concept of biophilia, the artworks inherently exude an attraction to nature, invoking emotions and cognitive engagement (Kellert, 2018). The authors suggest that modifying diluent proportions and color concentrations could result in varied artistic effects, marking a promising area for future studies. The idea of democratizing art by enabling common

people to create their own artworks using provided diluted pigments encourages interactive, imaginative art creations. Such an approach could be therapeutic, offering a platform to express individual emotions and experiences, thereby contributing to mental stress alleviation. The abstraction of nature's power in the visual designs aligns with the works of Kellert (2018) and Wilson (1986), highlighting the significant influence of biophilic design and the love of life and living systems in the creative process. Also, the emphasis on the effects of altering diluent proportions and color concentrations is analogous to the suggestions made by Dow (1913) in his series of exercises in art structure. By democratizing art and providing the means to create personal artworks, this study not only further validates the importance of color theory (Fortner & Meyer, 1997; Ibraheem et al., 2012) but also endorses the therapeutic potential of art, hence fostering mental stress alleviation (Stern, 2010).

In conclusion, through the thorough exploration of color within the geographical and cultural dimensions of Xinjiang and Gansu, and by integrating the profound implications of biophilia in visual arts, this investigation has successfully met its objectives. The analysis, paired with innovative art techniques, has provided both a deep understanding and a fresh perspective on the intricate interplay of color, culture, and the innate human connection to nature.

Recommendations

Having conducted this investigation, the authors suggest conducting further pigment experiments to determine the effects of varying diluent proportions. Further, increasing sensitivity towards art by exploring other artists' works, comprehending their concepts and inspirations, reading more about color theory, festivals, culture, and integrating disciplines like sociology, visual arts, and human relations could lead to a more soulful resonance with art. The authors also advise the study of philosophy, asserting that at a certain level of exploration, all disciplines inevitably intersect with philosophy, which could serve as a foundational theoretical bedrock for future artistic creations. However, these insights are not without limitations, as they predominantly represent the authors' perspectives and experiences. To address this, it would be beneficial to broaden the study scope by including multiple artists' perspectives to diversify and deepen the understanding of color and its power. The authors' emphasis on delving deeper into color theory (Parkhurst & Feller, 1982; O'Connor, 2021, 2023), and integrating disciplines such as sociology, visual arts,

and human relations, resonates with Hawkins' (2013) call for creative geographies. Furthermore, studying philosophy can potentially serve as a theoretical bedrock for future design creations (Parsons, 1921; Ross, 1919). The perspective-driven insights into the power of color can be enriched by including multiple designers' perspectives (Gribkov & Petrov, 1996), providing a broader scope to understand color's power and its implementation in visual design.

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