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*Thesis topic: Improving architecture for wellbeing
with Luis Barragan colour theory*

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COLOPHON

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INTRODUCTION

Luis Barragán (1902- 1988) is a famous Mexican architect who once said: “I believe in an ‘emotional architecture.’ It is very important for human kind that architecture should move by its beauty; if there are many equally valid technical solutions to a problem, the one which offers the user a message of beauty and emotion, that one is architecture.” (Ambasz, p. 8, 1976) This statement highlights the essence of this thesis. The thesis examines the innovative use of color by architect Luis Barragán and its potential to inform modern design methodologies to improve human well-being.

Luis Barragán's architecture is highly distinctive and is characterized by bold and striking color palettes. The colors and lighting were cleverly placed to give the users a specific experience. Another quote he said is: “My house is my refuge, an emotional piece of architecture, not a cold piece of convenience.” (Ambasz, p. 8, 1976) This philosophy is the foundation of his architecture.

The impact of Barragán's use of color in architecture was extraordinary, as he created emotional and spiritual spaces that manipulated the perception of spaces and promoted the well-being of the users. He believed that: “any work of architecture which does not express serenity is a mistake,” emphasizing his focus on creating calming spaces in an increasingly chaotic world (Ambasz, p. 8, 1976).

By examining the methods of Luis Barragán and the lasting impact of his architecture, the goal of this thesis is to outline future directions for improving well-being through the use of color in architecture.

“

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offers the user a message of beauty and
emotion, that one is architecture.* ”

- Luis barragan (Ambasz, p. 8, 1976)

RESEARCH QUESTION

How can Luis Barragán's color theory and implementation in architecture inform modern design practices to create architecture that enhance occupant well-being?

OUTLINE STRUCTURE

CHAPTER ONE: LUIS BARRAGAN

This chapter is about Luis Barragán. What were the colors he used to achieve his so-called "emotional architecture"? It also explores the way he used light in his designs. In addition, it delves into the emotional value of his architecture; in what ways are users affected? Finally, it discusses how the perception of his work has evolved over time.

CHAPTER TWO: HISTORIC AND MODERN COLOR THEORY

To investigate what is missing in modern color theory, this chapter examines existing color theories. This chapter discusses Goethe's color theory, which serves as the foundation for many other color theories. It then examines the perception of colors in different settings, based on Josef Albers' color theory. This is followed by a more modern theory of healthcare facilities in architecture, which describes how colors contribute to people's well-being in architecture. This is followed by a section explaining how certain color theories can be applied to residential projects. Finally, the cultural influence of color is explored- how we perceive colors in Europe differs from how they are perceived in Mexico.

CHAPTER THREE: COMPARING COLOR THEORIES

The final chapter discusses comparing these theories and it serves as a stepping stone toward the final objective; How can we help people through colorful architecture?



Image 1: Luis barragan house

1. LUIS BARRAGAN

Luis Barragán (Image 2) is one of Mexico's more well-known architects and is renowned for his exceptional use of color in architecture. He seamlessly merges the traditions of Mexican culture with modernist principles from Europe. Through his architecture, he transformed spaces into unique experiences. Some even say that he developed his own architectural language. This chapter will go in depth of some of his work and dive in to his magnificent use of colour and lighting to create this emotional architecture.

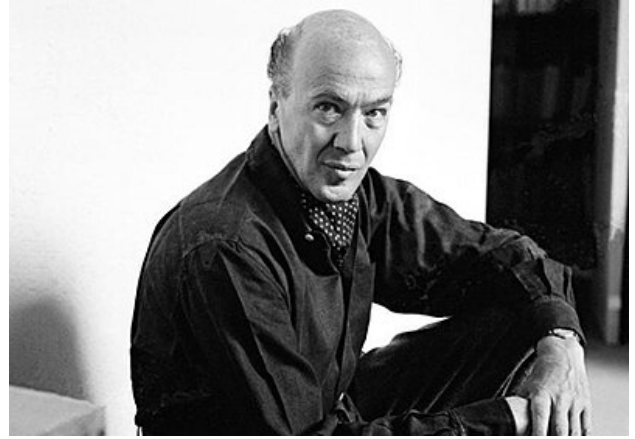


Image 2: Luis Barragán (Wikipedia-bijdragers, 2025)

Color use of Luis Barragán

According to Eifler (2013), Luis Barragán started small in his early years, he experimented with color in small amounts. His color palette at the time mainly consisted of blue, and he frequently varied with white and red. During his travels through Europe around 1930, he met renowned artists and architects such as Le Corbusier, Ferdinand Bac, and José Clemente Orozco. These encounters were crucial in further developing his own style around 1940, known as the "Mexican International Style."

Le Corbusier believed that a house should be a machine, but Luis Barragán took his own stance in the world of architecture and introduced the concept of "emotional architecture" (Eifler, 2013).

Due to the influence of José Clemente Orozco, Barragán incorporated fine arts into his architecture. He used colors such as brilliant yellow, pink, fuchsia, magenta, vermillion, cadmium red, indigo, cobalt, sapphire, lilac, and deep purple. His color palette was not randomly chosen but deeply rooted in Mexican culture. One of Barragán's famous quotes is:

"Colours that blaze in the Mexican sun have always been exuberantly featured in everyday life and rituals. These colors restore the spirits of our people, for whose retinas supreme beauty vibrates with the more audacious values and contrasts of tropical colours, of the variegated colors of tropical plants and birds." (Duncan, P.14, 2021).

Barragán's color schemes often drew inspiration from the natural world, helping to blur the boundaries between interior and exterior spaces. His use of greens and blues, in particular, often echoed the colors of vegetation and Barragán skillfully connected contrasting colors to create dynamic spaces. He often paired warm tones with cool ones or used complementary colors to enhance the visual impact of his designs (Han, 2023). Barragán frequently applied bold colors to exterior walls, creating striking contrasts with the surrounding environment. For example, in his design for the Gilardi House (Image 3 & 4, 1976), he used a vivid pink for the exterior walls, which stood out dramatically against the blue sky (Ambasz, 1976).

Campo Baeza (2022) describes how Barragán applied color to key accents in his buildings. Because his buildings have very minimalist details, these accents become even more prominent. In interior spaces, Barragán used color to define areas, create focal points, and influence the perception of space. In his own house (1947), he combined white walls with vibrant yellow and pink accents to create a sense of warmth to feel at home (Ambasz, 1976).

Color was not limited to built structures in Barragán's work. The landscape architect Ferdinand Bac taught him about the beauty of integrating architecture with landscapes. He carefully integrated colorful flora and water features into his landscape designs. His designs were designed to be enchanted places for feeling tranquillity, his gardens were a place for meditation and contribute to a healthy mind. (Eifler, 2013)



Image 3: Gilardi House (1976) (Gilardi House | Barragan Foundation, n.d.)



Image 4: Gilardi House (1976) (Gilardi House | Barragan Foundation, n.d.)

Use of lighting

According to Campo Baeza (2022), what makes Luis Barragán's architecture special is not the color, but the light. If you compare the number of white walls to colored walls in his work, he actually uses relatively little color. Perhaps the secret to creating a "serene" or "emotionally captivating" space is not color, but light. In modern architecture, color is used far less frequently, yet a well-designed space still evokes a certain feeling when you enter it. Contemporary architects often prefer to create atmosphere through specific lighting conditions.

This does not mean that color has no impact on the emotional perception of a space. In fact, the use of color can enhance this perception. Schielke (2018) even claims that Barragán used light to make us see color more vividly. Barragán himself combined various techniques to achieve an "emotional" design. Schielke (2018) describes how Barragán used "half-light" as a spatial strategy. He applied this technique in many projects, such as the Chapel for the Capuchinas Sacramentarias and Casa Gilardi (Image 4), where he minimized direct views of the sky.

Barragán criticized designs that lacked dimmed spaces, stating:

"Architects are forgetting the need of human beings for half-light, the sort of light that imposes a sense of tranquility, in their living rooms as well as in their bedrooms. About half the glass now used in so many buildings—homes as well as offices—would have to be removed in order to obtain the quality of light that enables one to live and work in a more concentrated manner, and more graciously. We should try to recover mental and spiritual ease and to alleviate anxiety, the salient characteristic of these agitated times, and the pleasures of thinking, working, conversing are heightened by the absence of glaring, distracting light." (Duncan, p.24, 2021)

According to Schielke (2018), the walls in Barragán's architecture are not only structural elements but also serve to cast shadows in precisely the right places on or within the building, or to create reflections in water. His walls featured both soft and rough textures, generating striking contrasts that activated a tangible dimension. The impact of all these techniques made his distinctive color palette stand out even more.

Emotional perception

As mentioned earlier in this chapter, the architecture of Luis Barragán went far beyond the aesthetics of architecture and was truly intended to evoke a specific emotional sensation in the user of the building. According to Han (2023), the spaces he designed were a sort of resting place for the soul, with the use of color and light being the tools through which he achieved this.

In different building functions, he had various approaches to achieve this effect. Ambasz (1976) explains that, for example, in religious buildings like the Capuchin Convent Chapel (Images 5 & 6, 1952–55), he used warmer tones and shades that fit with nature to create an atmosphere that reflected religious activities.

Duque (2020) clarifies that pink and yellow-tinted windows were used in the project, creating a serene atmosphere in the chapel. The walls have rough textures with wood and intense ochre colors.

A light enters the chapel through a grid structure and creates a sense of serenity. In the garden of the chapel, there is a patch of water where white blossoms float, next to which a yellow grid is placed. The light filters through the grid onto a black stone.

In residential projects, Luis Barragán used vibrant colors to fill the space with joy and energy. The use of bright yellow, pink, and blue, as seen in Casa Gilardi (1976), clearly demonstrates this. Ambasz (1976) describes the house as having a pink volume on a dark base, with strong contrasts and a bright yellow window. Inside, there is a light-filled hall with a white staircase that leads you to the living room. A hidden corridor, filled with yellow lighting, leads you to a space with a pool and a red wall. The sequence of spaces and the dynamic use of color, light, and textures in the design evokes serenity and wonder.

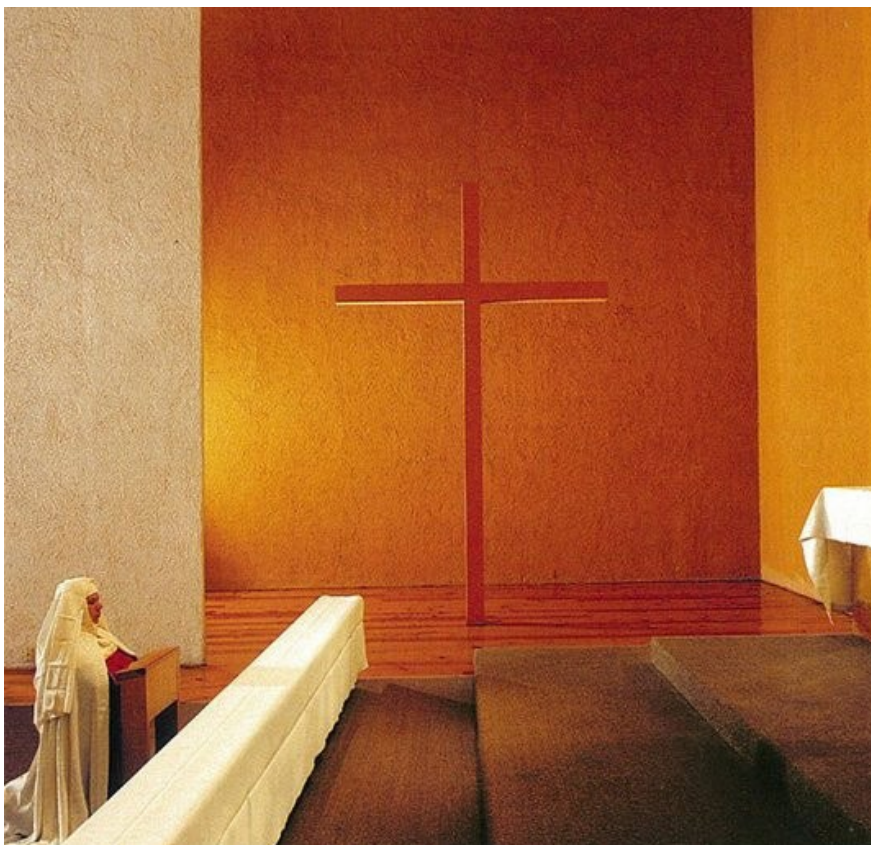


Image 5: Capuchin Convent Chapel (Duque, 2020)

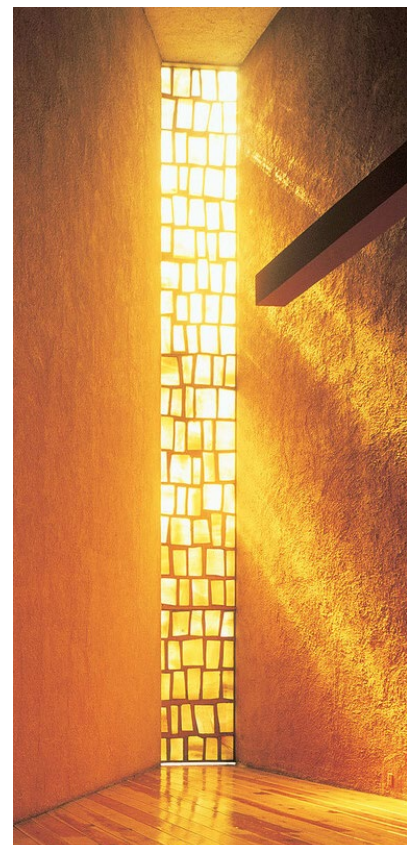


Image 6: Capuchin Convent Chapel (Barragán Foundation, n.d.)

Complex cultural representation

Despite all these achievements, his work largely went unnoticed until, at the age of 74, he rose from obscurity to fame. In the 1970s, his work was largely unappreciated. One critic even dismissed his architecture as being “exactly what Mexican architecture shouldn’t be.” Fortunately, this perception changed with the international publication of a catalog by New York’s Museum of Modern Art, which celebrated his work as “so very Mexican” (Eggner, 2002). This external validation played an important role in elevating his reputation in Mexico.

Critic Jorge Manrique praised Barragán not for merely reviving traditional forms or using characteristic materials, but for evoking a distinctly Mexican essence without directly employing conventional Mexican motifs. Many critics, both national and international, now view his work as deeply Mexican in an indirect and nuanced way. As a result, Barragán’s architecture is often seen as an authentic cultural expression. However, some argue that this interpretation overlooks important complexities in legitimizing such claims (J. De Veen, 2012).

Conclusion

Luis Barragán’s implementation of color in his architectural designs was influential. The 5 pillars that define his architecture are depicted in Image 7. He used a bold color palette, in his architecture he employed a lot of contrasts to create harmony. He made extensive use of natural light and shadows. Additionally, his cultural significance was immense, with these pillars combined he created an emotional impact with his architecture.

His bold, emotive use of hues, combined with his manipulation of light and space, created a unique architectural language that continues to inspire designers today. Barragán’s work demonstrates that color is not just a surface treatment in architecture, but a powerful tool for shaping experiences, evoking emotions, and creating spaces that resonate with the human spirit.

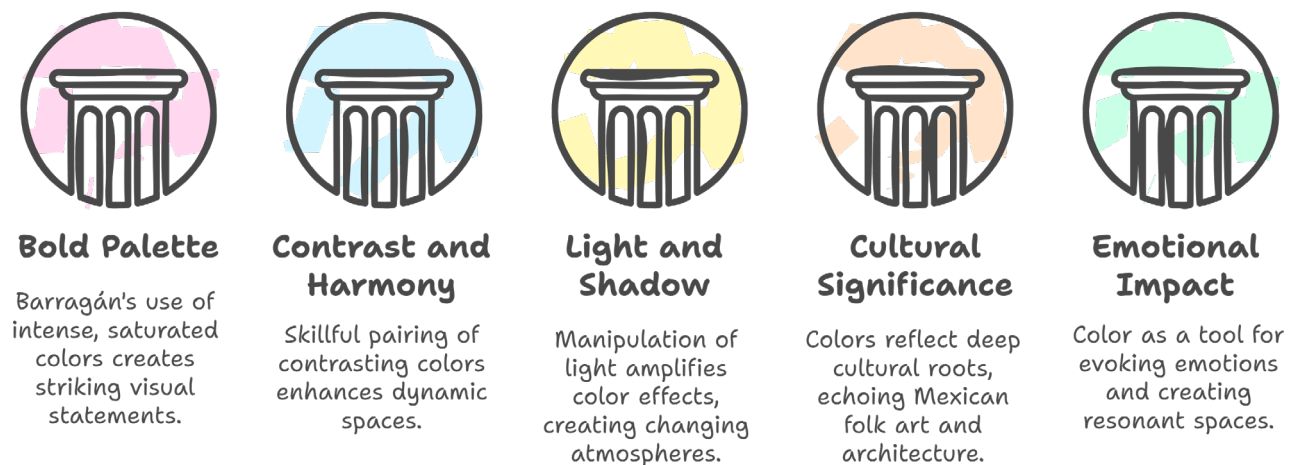


Image 7: “Pillars of Luis barragan Architecture” source: own

2. HISTORIC AND MODERN COLOR THEORY

As mentioned in the previous chapter, Luis Barragán was partly inspired by Le Corbusier, who is also known for his eccentric use of color in architecture. In addition to the Swiss architect Le Corbusier, there were several other renowned color theorists in Europe who may have also inspired Luis Barragán. This chapter explains color theories from the 19th century to the present day. It also explores how colors influence emotions and well-being, as well as how different cultures have different interpretations of various colors.

Johann Wolfgang von Goethe 1810

Johann Wolfgang von Goethe's color theory was published in 1810 this marked a significant shift in understanding color. Before Goethe's time the scientific approach to color, was only studied by Isaac Newton. Goethe's view of the phenomenon of color aligns more with the way artists work with color. Furthermore, Goethe's color theory allows for a great deal of room for each person's individual color perception, as each brain interprets color differently. With his book "Entwurf einer Farbenlehre" (1810) Goethe laid the foundation for color theory.

Key principles

Goethe (1810) established several key principles that form the foundation of his color theory. One of these was the polarity between light and darkness. Unlike Newton's color theory, which stated that color originated solely from light, Goethe argued that color emerged from the interaction between light and darkness. Within this interplay he identified two primary colors: cyan and yellow. According to him, cyan is created by perceiving darkness through light, while yellow arises from perceiving light through darkness.

The third principle concerns the intensification of these two primary colors; yellow deepens into orange and red, while blue intensifies into indigo and violet. These colors form a fundamental color wheel, visualizing the relationships between different colors. The color wheel includes complementary colors, these are the opposite colors in the colorwheel and enhance each other when placed side by side.

Additionally, Goethe has a lot of research on the psychological impact of color, associating specific emotions and characteristics with different hues, much like Luis Barragán did in his architectural approach.

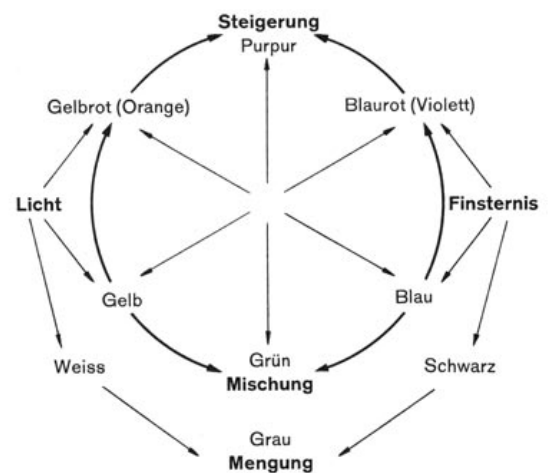


Image 8: Explanation Goethe (1810) colour wheel

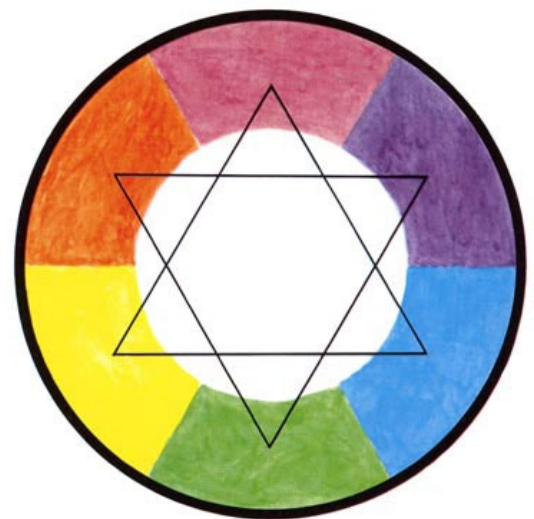


Image 9: Goethe (1810) color wheel

Psychological effects

According to Goethe (1810) the two primary colors form a “plus” and “minus” side. In modern color theory this concept is often referred to as “warm” and “cool” colors.

The “plus” colors include all colors intensified by yellow, including yellow itself. These are associated with effects such as brightness, clarity, strength, warmth, proximity, repulsion, and a relation to acids. The “minus” colors include all colors intensified by cyan, including cyan itself, and are linked to qualities such as withdrawal, shadow, darkness, weakness, coldness, distance, attraction, and a relation to alkalis.

In image 10 Goethe’s color triangles are pictured, it is a organised diagram that summarizes Goethe’s color theory.

Additionally, Goethe (1810) described the sensory and emotional or physical responses to each color:

Yellow: This color is the closest to light, giving it a bright, cheerful, and mildly stimulating character.

Red-Yellow: This color provides a literal sensation of warmth and comfort, as it represents both the deep glow and the soft reflection of the setting sun.

Yellow-Red: A highly active color that generates a lot of energy. Energetic, healthy, and rugged individuals are often particularly drawn to it.

Blue (Cyan): Blue is the closest to darkness, evoking a sensation of cold, as it also reminds us of shadows. When mixed with a “plus” color like green, it can quickly create a sense of calm. This concept was later scientifically proven through studies on lower blood pressure and respiratory rates (Vetter, 2024).

Red-Blue: This color makes people restless. When highly diluted, it resembles lilac, which appears lively but lacks cheerfulness.

Blue-Red: A more intense version of red-blue, it further increases restlessness.

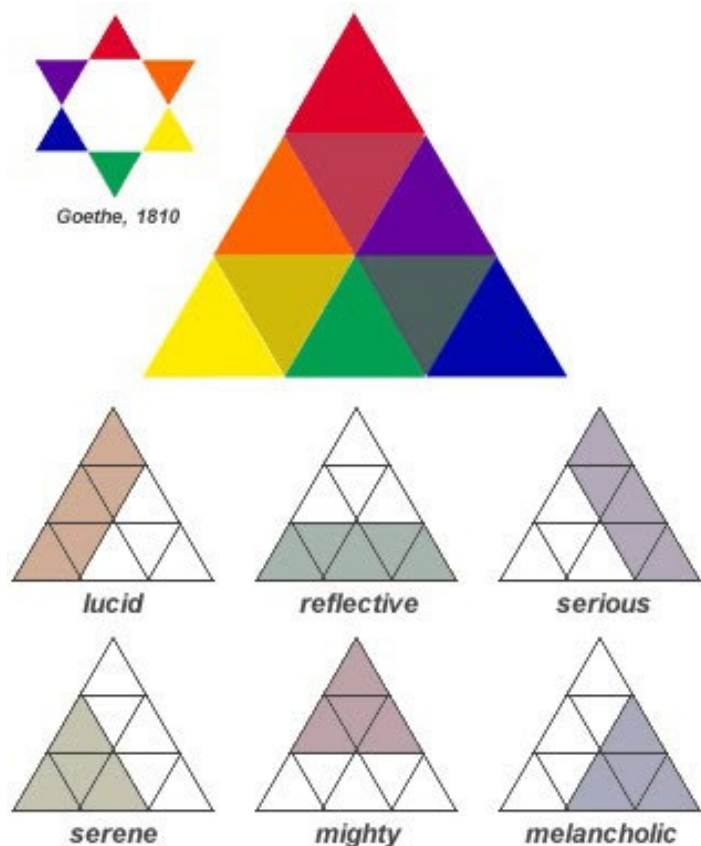


Image 10: Goethe (1810) color triangles

Red: Many colors converge in red. Goethe (1810) also referred to “purper” as the deepest shade of red. This color evokes a sense of alertness but also dignity. The more diluted it becomes, the more it conveys gentleness and charm. Red is a color that “activates” the body, aligning with modern research showing that red increases heart rate and adrenaline levels (Vetter, 2024).

Green: The eye finds true satisfaction in this color. As a combination of the two primary colors, green conveys a sense of balance and harmony.

Josef Albers (1963)

Josef Albers was a color theorist who published a book in 1963 titled *Interaction of Color* (1963). The book emphasizes the importance of experiencing colors rather than relying solely on theoretical principles. He extensively studied how colors interact with each other.

Key principles

"Colors represent themselves in a continuous flux; they are constantly related to changing neighbors and changing conditions." (Albers, p.5, 1963) Therefore, if you were to ask a group of 50 people to imagine the color "red," they would likely each picture a slightly different shade of red.

Albers (1963) primarily conducted experiments to prove his theories. In *Interaction of Color* (1963), he presents various series of color compositions. For example, he demonstrated that complementary colors appear "neutral" when overlaid.

Another key discovery from his experiments was the phenomenon of the "after-image." When staring at a colored image for a period of time and then looking away, one can see a ghostly figure where there is actually nothing (image 11). This is one of the earliest recorded optical illusions in history.

Albers (1963) also created optical illusions by placing identical colors next to each other in specific compositions. In certain arrangements, it appears as though multiple shades are being used, even when they are not (image 12). This relates to the concept of optical illusions where colors placed closely together blend in the eye and creating a new perceived color.

Additionally, Albers (1963) did a study on how colors behave when set against warm or cool backgrounds. He discovered that a color appears warmer or cooler depending on the surrounding hues (image 13). He also explored how small variations in hue, saturation, or brightness can significantly impact overall color perception. He encouraged sensitivity to these subtle nuances and an understanding of how they can be used to create specific visual effects.

The conclusion of his research is that colors are highly complex and subjective, as their perception varies greatly depending on the individual and the environment.

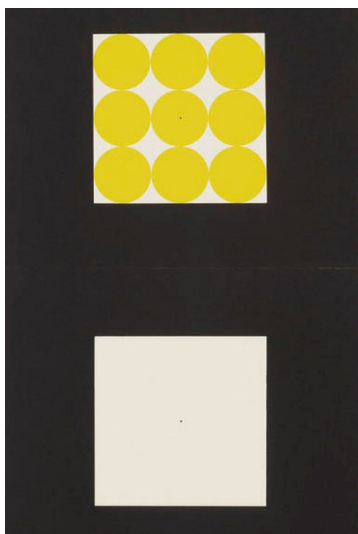


Image 11: Albers (1963)
"after image"

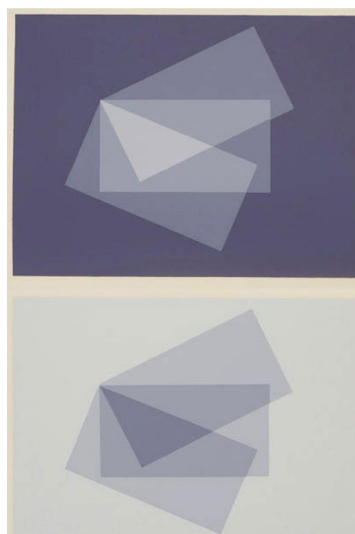


Image 12: Albers (1963)
color perception

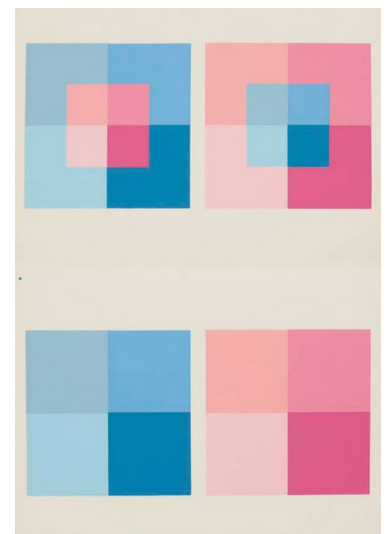


Image 13: Albers (1963) color
in warm & cool backgrounds

Modern Color Theory and Emotional Perception

Modern color theory, as applied in architecture and design, emphasizes the psychological and physiological impacts of color on human emotions and behavior. Recent studies in neuroarchitecture have provided insights into how color affects our perception and well-being in built environments.

Colour theory of healthcare facilities

According to Lengen (2015), colourful architecture has a positive impact on human well-being. Lengen's (2015) research is based on the idea that green and blue spaces enhance visitors' well-being. The study found that environments incorporating these colors triggered a certain mentalization process. Mentalization refers to the ability to understand and interpret one's own and others' mental states. This can lead to increased relaxation, improved mental health, and a stronger connection to nature and the surrounding environment.

This is a theory that can be effectively used in the design of new healthcare facilities. According to E. Rijgersberg, the use of color is very useful in the design of healthcare facilities. In healthcare settings, neutral colors such as white and gray are predominantly used, but for people with dementia or those who are visually impaired, this can be very disorienting. Additionally, it can give many people a cold feeling. Using colors helps to reduce the negative impact.

However, as Luis Barragán already claimed, color alone is not enough to create a "healing" space, it is important to include light. Park et al. (2018) explained that when a patient has more access to daylight from his room, there is a big chance that the patient will recover faster than a patient with less daylight in his/her room. (Buter, 2014) describes that stress is directly related to a decline in human wellbeing. Therefore, living in a stress-reducing environment can also increase overall well-being.

Color theory of housing design

The target audience of Luis Barragán was actually the ordinary citizen, not patients in hospitals. This paragraph therefore focuses on color theory in residential architecture.

The book "Kleur bekenen in Architectuur" by E. Rijgersberg (1938) offers an interesting perspective on the use of color in residential buildings. She views color not as a decorative finish, but as a component that should be integrated into the design process. Just like is done in Image 14, where a colourful city is shown in Mexico. The fact that this city has a colorful appearance does not directly impact the well-being of the residents, but research of by E. Rijgersberg (1938) shows that it can contribute to the positive emotions experienced by the users.

Instead of uniform gray or beige facades, accents in warm or vibrant colors can contribute to a sense of homecoming and connection with the environment. It is wise to tailor the color palette to the target audience of the housing, as E. Rijgersberg also mentions that cultural preferences can have a significant influence on the emotional perception of color.

Through the use of color in architecture, human behavior can also be influenced; warm colors invite interaction, while cool colors provide calmness.



Image 14: Guanajuato is a colourful Mexican city.

Color has a different meaning in different contexts. According to E. Rijgersberg (1938), people physiologically respond to red with an increased heart rate, as the color signals danger or urgency. Psychologically, however, this color can evoke warmth or passion, depending on the context.

The experience in a space can be strongly influenced by colors. It is not only a particular atmosphere that a color brings, but also a certain illusion. According to E. Rijgersberg (1938), warm colors such as red, orange, and yellow visually come forward, creating a cozy feeling. Cool colors like blue and green, on the other hand, recede and "expand" the space.

This principle can be effectively applied in housing construction by using cool colors in small apartments to make it appear as if there is more space. At the same time, warm colors can be used in cozy spots such as niches or reading corners.

Cultural differences

As mentioned by E. Rijgersberg (1938) the way we perceive a existential space is highly influenced by our past experiences and culture.

Jonauskaite et al. (2023) researched this topic. They made a International Colour-Emotion Association Survey for various subjects from different cultures and they were asked to associate certain colors with specific emotions. The results showed that different cultures have varying associations with different colors.

According to Han (2023), for example, red in Chinese culture represents happiness and prosperity, while in Nigeria, it is associated with fear. In Greece, purple is linked to gloom and sadness, whereas in most other countries, it is considered a positive color.

The colors Luis Barragán used in his architecture are deeply inspired by Mexican culture. One could argue that his architecture only evokes an emotional response for those with a Mexican background. However, this is not entirely true, as many universal color associations exist worldwide, as demonstrated in the International Colour-Emotion Association Survey.

Barragán's pink signature color carries a sense of national identity and, according to Han (2023), symbolizes Mexican charisma. Meanwhile, in Switzerland, the same color is commonly used in prisons in an attempt to calm inmates. A 1988 study (Gilliam and Unruh) explains how Baker-Miller Pink can induce a sense of calm.

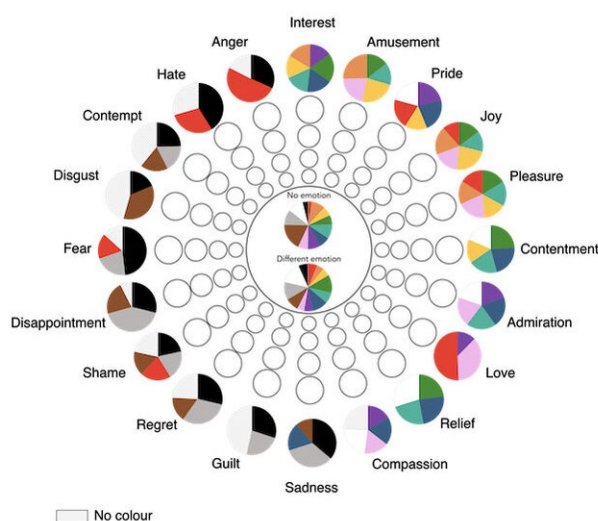


Image 15: Colour association wheel Jonauskaite et al. (2023)

Color term	Associated emotions	Average %	Color term	Associated emotions	Average %
Red	Love	68%	Pink	Love	50%
	Anger	51%		Joy	41%
	Pleasure	33%		Pleasure	40%
	Hate	29%		Amusement	36%
Orange	Joy	44%	Purple	Pleasure	25%
	Amusement	42%		Interest	24%
	Pleasure	33%		Pride	24%
	Joy	52%		Admiration	24%
Yellow	Amusement	40%	White	Relief	43%
	Pleasure	32%		Contentment	30%
	Contentment	39%		Sadness	48%
	Joy	34%		Disappointment	41%
Green	Pleasure	34%	Grey	Regret	31%
	Relief	33%		Disgust	36%
	Interest	31%		Sadness	51%
	Relief	35%		Fear	48%
Blue	Contentment	34%	Brown	Hate	41%
	Interest	27%		Anger	32%
	Pleasure	35%		Guilt	30%
	Relief	34%			
Turquoise	Joy	32%			
	Contentment	31%			

Image 16: Colour association table Jonauskaite et al. (2023)

Conclusion

This chapter explored historical and modern color theories, highlighting their impact on emotions, well-being, and cultural interpretations. From Goethe's emphasis on the interplay between light and darkness and the psychological effects of color, to Albers' focus on the interaction of colors and subjective perception, the chapter demonstrated the complexity of color theory. Modern applications in healthcare and housing design further underscored the importance of color in influencing human behavior and creating specific atmospheres.

Finally, the chapter addressed the cultural variations in color associations, while acknowledging the existence of universal color perceptions. This provides a foundation for understanding how Luis Barragán's architectural color choices might evoke diverse emotional responses, rooted in both cultural context and individual experience.

3. COMPARING COLOR THEORIES

This chapter will compare the first two chapters with each other. Where could Barragán get his inspiration from and where are the gaps in color theory in relation to wellbeing?

Goethe

Luis Barragán's use of color closely aligns with Goethe's color combinations. In particular, the color triangle (image 10) explains many combinations linked to emotions, which Barragán aimed to evoke in his architecture.

He frequently used "serene" colors, especially yellow light, which appears in multiple places throughout his designs. Additionally, the integration of landscape with architecture corresponds to the color green in the "serene" color palette. Barragán also introduced his own signature color: light pink. This shade appears in many of his projects, and a 1988 study (Gilliam and Unruh) explains how "Baker-Miller Pink" can induce a sense of calm.

As mentioned in Chapter 1, Luis Barragán was also influenced by the European artist José Clemente Orozco, reinforcing the connection between his work and fine art. Since Goethe's color theories were published long before Barragán's time, this could explain the strong similarities between Goethe's color theory and Barragán's architectural color schemes.

Josef Albers

Albers focused more on the interaction between colors and contextual perception, while Goethe emphasized the emotional and psychological impact of individual colors. Like Albers, Barragán understood the importance of color in context and how colors can influence each other. Albers primarily focused on experimenting with different color juxtapositions to create optical illusions. Barragán was already using optical illusions in an earlier era to create certain atmospheres in his architecture. Josef Albers can actually be seen as a more scientific validation for Barragán's intuitive architecture.

Modern Color Theory and Emotional Perception

Many principles found in modern color theory and color psychology seem to relate to Barragán's architectural use of color, though there are also some notable differences. Barragán used colors more intuitively than based on clear underlying research. His research was his own experience and knowledge from users.

Recent research shows that his "feeling" was not at all misguided. Colorful architecture has a positive effect on wellbeing, with green and blue spaces promoting relaxation and a connection to nature.

Most healthcare or residential buildings are not designed with a colorful base; the generic hospital in the Netherlands is white and residential building looks dull. This could significantly be improved by learning from recent studies about colorful architecture and inspiration from Luis Barragán's architecture.

CONCLUSION

In order to produce vibrant architecture that improves occupant well-being, this thesis investigated Luis Barragán's color theory and its potential to influence modern architectural practices. As the research question states: How can Luis Barragán's color theory and implementation in architecture inform modern design practices to create architecture that enhance occupant well-being? The study offers an in-depth understanding of Barragán's color theory and its relevance today.

The bold use of vivid colors like deep purple, bright yellow, and Mexican pink defined Barragán's color schemes. In his architecture, he skillfully combined contrasting colors by using them as accents and creating harmony. He was inspired by his environment, which included both nature and Mexican culture.

Barragán aimed to create "emotional architecture" by strategically using color. Incorporating fine arts into his architectural designs allowed Barragán to create unique spaces that made their occupants feel something. He used different strategies to create this effect in various building functions. In religious buildings like the Capuchin Convent Chapel, he used warmer tones and shades that harmonized with nature to create an atmosphere that reflected religious activities. In residential projects, Luis Barragán used vibrant colors to fill the space with joy and energy. The use of bright yellow, pink, and blue, as seen in Casa Gilardi, clearly demonstrates this.

In addition to color, he also made use of lighting. By using "half light" and avoiding direct sunlight in his designs, his architecture gained an even more emotional atmosphere. He positioned walls so that shadows would fall in exactly the right places or so that reflections would appear in the water. Barragán combined color with various architectural techniques, which makes his architecture so powerful in shaping experiences, evoking emotions, and creating spaces that resonate with the human spirit.

Barragán was not recognised until the age of 74, when his work was published by the national museum of New York. Many critics, both national and international, now view his work as deeply Mexican in an indirect and nuanced way.

Color theorists including Johann Wolfgang von Goethe and Josef Albers had a considerable impact on architectural design. Goethe's color theory linked particular emotions to different hues, underlining the psychological effects of color. It is quite probable that Luis Barragán applied this color theory to his architecture, even though it was not specifically stated in his publications at the time.

The color triangle (Image 10) in particular explains a lot of combinations that are associated with emotions, which Barragán wanted his architecture to evoke. He frequently used "serene" colors, particularly green and yellow to evoke a calming space.

What makes Josef Albers an interesting figure is that he experimented with colors in different settings. Even though Luis Barragán's architectural era came before that of Josef Albers, many similarities can be found between the two. Just like Albers, Barragán made use of optical illusions in his designs. Albers' research could be seen as a more scientific foundation for Barragán's intuitive design style.

Lengen's research (2015) also supports the Barragán's idea that green and blue spaces enhance visitors' mood. Additionally, the book *Kleur bekennen in Architectuur* by E. Rijgersberg (1938) has many similarities with Barragán's architecture. It states that accents in warm or vibrant colors can contribute to a sense of homecoming and connection with the environment. Additionally, it explains how colors can influence human behavior encouraging social interaction or creating a sense of calm. This improves mood and reduces stress, directly contributing to enhanced well-being. The book also discusses how warm colors can make a space feel more cozy, while cool colors can make it appear larger, these are techniques that are frequently seen in Barragán's designs.

Cultural background significantly influences color perception, with different cultures associating varying meanings and emotions with specific colors. Barragán's use of Mexican pink, for instance, carries a sense of national identity and charisma in Mexico, while it is associated with calming inmates in Switzerland. This highlights the importance of cultural awareness when choosing color schemes for architectural spaces.

There are several ways to reduce people's stress and thereby directly improve their well-being through the use of color in architecture. Although Luis Barragán used many bold colors and strong color contrasts, it is not always desirable to apply this approach when the goal is to create a calming atmosphere in the space. Depending on the purpose of the design, the atmosphere can be adjusted using Goethe's color wheel (Image 10). Colors such as yellow, orange, and green, for example, create a "serene" atmosphere. Light pink was Barragán's own characteristic color. Many of his works feature this shade, and a 1988 study by Gilliam and Unruh describes how "Baker-Miller Pink" can have a calming effect.

Additionally, it's important to incorporate half-light into a design. Small variations in hue, saturation, or brightness can significantly impact overall color perception and atmosphere. By using these subtle nuances and understanding how they can be applied, one can create specific visual effects that enhance the desired atmosphere.

Most wellbeing/ residential buildings are not designed with a colorful base. Barragán's work confirms how the psychological, physiological and cultural values of colors can influence architecture to enhance the well-being of occupants. This thesis has shown that it is important to interweave all these influences to create the desired space and mood. Future research could explore the application of Barragán's principles in diverse cultural contexts and investigate the long-term effects of color on occupants' well-being in architectural spaces.

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