



## Color Planning Pathways

*Think of color as three-dimensional from the start. Color should provide clues as to what you are going to encounter in that environment. Color is the first thing you notice and the last thing you leave with.*

—Agnes Bourne, Interior Designer

Color elevates the human experience and transforms space; yet, the process of designing with color can be quite complex and challenging. When challenges to color planning are recast as opportunities for development, designing with color can be optimized and creativity unlocked. This book contains twenty narratives of design projects that reveal the ways designers use color to define form and create meaning while addressing human needs.

For experienced designers, color represents more than a name: red, yellow, or blue. *Hue*, or the family name of the color, simply represents its position on the visible spectrum, while the second dimension of color, *value*, indicates the relative lightness or darkness of the hue. Value defines the position of the hue in relation to black or white

and the amount of light the color reflects. By gradually increasing the black in the color, less light is reflected, thus reducing its value. The opposite is true with white. Value can be gauged both achromatically and chromatically. *Chroma* is the third dimension of color. Also known as *intensity*, chroma defines the relative brightness or dullness of a hue; it represents the saturation level. Consciously considering dimensions of hue, value, and chroma gives designers more liberty to explore the potential of color.

Color planning does not stop with individual colors but necessarily extends to color groupings. Noted color theorist Josef Albers declared that color is the most relative element in art and astutely observed how some colors appear to shift in appearance when placed next to others. Color dimensions are relative to one another rather than absolute. A color that appears dark in one palette, for instance, may be judged lighter in another context, while a hue that appears bright in one palette may appear less saturated among other colors. In addition, color appearance is influenced by factors, such as lighting conditions and texture, that have implications for designing interiors. Color planning is much more than correctly anticipating how a swatch of color will translate an interior space.


The study of color is complex and can be understood in both subjective and objective terms. The subjective response to color is intuitive and varies from individual to individual. The objective response to color is rational and consistent, factual and standardized. Color research and knowledge, however, recognize both objective as well as subjective aspects of this design element. For example, the subjective naming of hues in a rainbow varies by culture, but its light wavelengths can be objectively measured in nanometers. The understanding of objective and subjective dimensions of color has been advanced in the following fields with particular relevance to the design of interiors:

- *Art*: Color interaction and contrast
- *Anthropology*: Cultural and historical color symbolism
- *Design*: Color planning narratives
- *Marketing*: Color and arousal, branding, and product differentiation
- *Physics*: Color and light properties and measurement
- *Psychology*: Color sensation, perception, and response

# Challenges of Color Planning

Designers face five challenges to color planning that, while potentially limiting, can be overcome through knowledge and experience (see Figure 1-1):

- *Subjectivity*: Color likes and dislikes
- *Objectivity*: Prescriptive color solutions
- *Conventionality*: Traditional schemes and harmonies
- *Materiality*: Natural coloration of materials
- *Dimensionality*: Visualization and application

CHALLENGE	ORIENTATION	COLORATION
Subjectivity	Designer	
	Client	
	Occupants	
Objectivity	Designer	
	Client	
Conventionality	Designer	
	Client	
Materiality	Designer	
	Client	
Dimensionality	Designer	
	Client	

**Figure 1-1**  
Challenges to color planning from designers, clients, and users with example colorations

## ***Subjectivity***

Perhaps the most fundamental barrier to color planning is too heavy a reliance on personal preferences when designing. Research shows that humans prefer certain colors and tend to avoid others. As beginning designers reach beyond their subjective views of color, their confidence in working with myriad colors and materials grows as they align design intent with project context. Awareness of personal preferences and subjective beliefs about color may not even be conscious. This makes it important to reflect on the following questions: *What colors appear again and again in my own work and in the field? How can innovative and imaginative color palettes be introduced across market sectors?*

## ***Objectivity***

If dangers arise from overemphasizing subjective beliefs, other barriers emerge from an overreliance on expert rules. For example, it was reported that a saturated pink, called Baker-Miller pink, subdued aggressive behavior in people being admitted into correctional facilities. Yet what was discovered over time was that prolonged exposure to this intense pink actually increased agitation. When a prescribed color formula is followed blindly, the result may not only lack imagination but also, however unintentionally, negatively affect human behavior.

The problem with one-size-fits-all recommendations is that they fail to account for context. Contextual considerations include the relationship between color and lighting, the influence of color on the amount of time to be spent in an interior, and individual differences in how color is perceived. Like inquiry on any topic, color research varies in quality and usefulness. To determine whether particular research findings should be applied to a design, begin by asking these questions: *Have the researchers carefully reported their methods, procedures, and participants? Have the color testing materials, lighting, and color vision of the participants been carefully controlled? In what types of settings can the findings be applied?*

## ***Conventionality***

Another barrier to color planning is an overreliance on conventional color schemes. Traditional color harmonies surface in interior architecture with deadening regularity. While monochromatic, analogous, and complementary schemes, for instance, offer acceptable ways to organize color relationships, an unhealthy dependence on organizational rules blocks creativity. Traditional color schemes often focus on hue. However, all dimensions of color, including value and intensity, should be considered

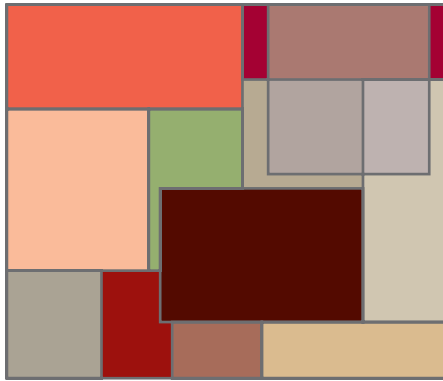
in relation to space and form. From a color planning perspective, conventional harmonies and schemes offer a beginning point rather than a solution. When developing color directions, consider the following questions to circumvent conventionality: *What is original and unique about the color palette? How is this coloration most appropriate for the design context?*

### ***Materiality***

A further challenge is to recognize that materials and finishes, whether glass, granite, or paint, contribute color to interiors. Just as the hues of nature have inspired artists through the ages, introducing natural materials into designed spaces creates a coloration that is often nuanced and complex. Some designers and schools of thought embrace a truth-to-materials stance that celebrates materiality in design. This perspective elevates natural materials over applied color finishes, such as paint. Regardless of the design stance on authenticity, color planning should be approached with intention and purpose. This chapter presents a contemporary and historical narrative illustrating how interior color is created primarily with natural materials that unify and sculpt space as well as convey meaning. Rather than debating whether a painted wall is less authentic than a stone one or not fully considering the impact of materials selection on the overall palette, it is more critical to ask these questions: *Is the natural coloring of materials considered part of the color palette? How do material and finish coloration contribute to the architectural form and interior space?*

### ***Dimensionality***

Another challenge is understanding color in three dimensions (see Figure 1-2). Developing color and materials palettes in two dimensions is not as complicated as applying these palettes to three-dimensional space. Sketch models, perspectives, elevations, and floor plans can facilitate visualization of color in the proposed design. Yet anticipating interaction of lighting and form on color placement, and viewing distance, scale, and proportion can be difficult even using the latest digital modeling techniques and physical mock-ups. One colorist I interviewed underscored the importance of careful and analytical observation: “Color expertise comes from experience. Look at color in the plane, where the color will be applied [on wall, ceiling, or floor surfaces], in the appropriate lighting at different times of the day. Consider the viewing distance when designing interior spaces.” The coloration of materials can appear to change under different lighting conditions. To optimize the translation to three-dimensional color, consider these questions: *Has color been considered in relation*



**Figure 1-2**  
Translating a color  
scheme from materials  
palette to perspective  
rendering

*to form and space from the beginning of the design process? How can the visualization of color be developed through observation, experimentation with multiple media, sketch models, large samples, and mock-ups?*

## Color Planning Framework

The criteria-based framework presented in this book (see Figure 1-3) addresses five distinct functions of color and illustrates an integrated planning approach by specifically addressing:

- Color as *compositional element*, shaping space
- Color as *communication*, creating meaning
- Color as *preference*, reflecting individuality or market trends
- Color as *response*, arousing feelings and responses
- Color as *pragmatics*, responding to resource parameters

### ***Color as Composition***

Working with color compositionally requires objective problem-solving to integrate color, lighting, and materiality. Individual colors also can be understood in compositional terms. For example, a white may be blue-based or red-based. Single colors can vary in the complexity of their composition. A neutral can be mixed from black and white (achromatic gray) or created from a pair of complements (chromatic gray). The complexity of color can be discovered by examining dimensions of hue, value, and chroma.

Further, groupings of colors can be analyzed compositionally. Establishing value relationships is particularly important for relating color to three-dimensional form. Color palettes offer a way to unify the interior with the exterior and can visually connect one interior space to another. Color also can create focal points and camouflage areas within an interior. Key concepts for color composition are complexity, balance, contrast, relationships, interaction, and integration.

### ***Color as Communication***

Humans communicate with color and interpret color meanings. Color associations develop the conceptual design and enrich the more objective compositional approach to color. Professor Harold Linton explains, “Color must first convey an expressive meaning that is appropriate to the specific project for which a color solution

is sought; and color and form must be presented to the observer in a manner that achieves visual unity.”<sup>1</sup> Expressive color facilitates conceptual development and communicates both overt symbolism and subliminal connections that associate closely with the emotional aspect of color. Key concepts for color communication are identity, concept, ambiance, time, and place.

### *Color as Preference*

Color preferences influence the design process. Designers and clients have subjective color likes and dislikes that shape color planning. Further, individual preferences can be influenced by market trends and cycles where product offerings encourage the selections of current colors and finishes. Key concepts for color preference are signature color, personal identity, and market color.

### *Color as Response*

Color influences a range of human responses, from arousal to the ability to navigate complex buildings. The relationship between color and the human response is tangible but not fully understood or empirically established. Key concepts for the human color response include physiological, psychological, and behavioral responses, including spatial orientation and performance.



**Figure 1-3**  
Color planning  
framework



## *Color as Pragmatics*

Color in design also reflects practical realities. Resource constraints sometimes necessitate less expensive materials and finishes in given color ranges. Preconditions also may influence coloration. The logical starting point for developing a color palette is an existing material. For example, a precondition in an adaptive use project might be a prominent green terrazzo floor that must be retained. Maintenance issues affect the pragmatics of color as well. Designers typically select darker flooring for high-traffic corridors to extend the longevity of the specified material. In a related way, designing sustainably necessitates specific lighting levels, materials, and paint lines that influence color. Key concepts related to the pragmatics of color planning involve resources, preconditions, maintenance, and sustainability factors.

The following cases illustrate color planning concepts in two projects, one contemporary and one historic, that speak to the close relationship of color and materiality. The projects recognize the many considerations that enter color planning processes and the different levels of client involvement in the process.

## Contemporary Color: Truth-to-Materials

Larry Wilson, senior principal at Rink Design Partnership, Inc., described his process of designing with color in the Riverview condominium project (see Figures 1-4a, b). The primary source of this color palette was its materials: the expansive glass walls, quartersawn natural cherry, a 4-inch slab of natural Brecco DiVendome marble, black Galaxy granite, and Navona travertine. These materials played a defining role in creating the interior coloration of the 5,200-square-foot condominium.

The clients issued a straightforward objective: They wanted a contemporary space that was livable and conducive to entertaining, with a streamlined interior space that promoted ease of circulation while remaining secondary to the panoramic views of the waterfront. The building, located at the bend of a river, offered views in both directions; in Wilson's words, "There always was a show going on." The lighting from day to night dramatically changed the feeling of the interior space. Over the course of a day, lighting could shift from soft grays to clear blues to a light goldenrod and then culminate in a chromatic display at sunset; at night, glittering city lights illuminated the pitch-black sky.

Large glass walls fully exploited the view, and Wilson decided to treat the remaining walls in cherry. In addition to contributing to the formal shaping of the space,



Left **Figure 1-4a**  
Interior with Brecco  
DiVendome marble



Right **Figure 1-4b**  
Interior with Galaxy  
granite

color also reinforced the design concept by evoking the interior of a yacht; the clients were passionate about yachting (the firm also designed the interior of a 132-foot vessel for them). The designers carefully selected cherry as a primary material because it is close in coloration to teak, the traditional material for yachts, plus it allowed them to create the refined wall veneer in a way not possible with teak. The cherry veneer wraps the walls throughout the living room and dining areas and conceals continuous storage, a wet bar, and the mechanical utilities. Selected in part for pragmatic reasons, cherry created a warm palette for the interior, and its finish yielded a subtle reflected light.

Color contributed to a powerful interior architecture and elicited associations with water; however, color selections of materials and finishes also were pragmatic. Wilson recounted, “I chose the black Galaxy granite for several reasons. One of the difficult dynamics of work with residences on the river is that everything is constantly backlit from the strong sunlight. Maintenance becomes a big issue.” The texture in the granite offers a highly functional surface with visual interest. He indicates, “I also chose the black Galaxy because it has an incredible copper metallic flex running through it. At night, under downlighting, it really comes to life.”

Unique color and texture also surfaced from the selection of an imposing slab of Brecco DiVendome marble to create a custom bar requested by the clients. This focal point proved a challenge in terms of placement and functionality. The solution was to design a piece that could visually hold its own when not in use; the custom piece moonlights as sculpture, and its scale conveys a sense of presence without impeding the view.

The flooring selection also reflects pragmatic reasoning. Wilson states, “The floors are Navona travertine with a honed finish. It was chosen for its soft appearance and light reflectance. The combination of a light floor and light ceiling facilitated light bounce deep into the space. The honed finish eliminated glare and hid more soiling than a polished finish.”

In summary, the color planning for the Riverview residence reflects intention and clarity. The color palette stems primarily from natural materials—glass, cherry, granite, marble, and travertine—yet the reasoning behind these selections addresses more than the inherent beauty of the materials. To create a fully integrated solution, the designer interwove compositional emphasis, symbolic meaning, and pragmatic reality, binding color to form. Wilson concludes, “I must say that form was the first consideration because it was driven by the programming information and functionality issues. Once the form was developed, the materiality and coloration were selected to reinforce the form.”

## Historic Color: Fallingwater

*The “grammar” of the house is its manifest articulation of all its parts—the “speech” it uses. . . .When the chosen grammar is finally adopted (you go almost indefinitely with it into everything you do) walls, ceilings, furniture, etc., become inspired by it. Everything has a related articulation to the whole and all belongs together because all together are speaking the same language.*

—Frank Lloyd Wright, *The Natural House*<sup>2</sup>

Designed by Frank Lloyd Wright in 1936, Fallingwater embodies a unity of interior and exterior, architecture and building site, in one of the most architecturally recognizable residences in the world. Projecting over a waterfall in Mill Run, Pennsylvania, Fallingwater appears as one with the land, emerging from its surroundings. Inside, Wright deconstructed the box by challenging conventional precepts governing interior spaces with his design of an open plan that visually connects natural and built environments (see Figure 1-5a).

For the interiors, Wright selected the coloration and materiality with great precision. Local sandstone figures prominently in the primary living spaces and visually relates to the site, as does the rugged waxed stone floor. Besides natural stone, Wright specified only two paint colors for the interior of Fallingwater: light ocher and tonal



Above **Figure 1-5a**  
Fallingwater living room  
(Mill Run, Pennsylvania)

Opposite **Figure 1-5b**  
Fallingwater Cherokee  
red on metalwork

red. The ocher was inspired by the yellowing leaves of the rhododendrons on the site. Applied to both exterior and interior concrete, this paint coating creates a more neutral backdrop than would a saturated hue inspired by nature.

The second specified hue, Cherokee red, appears exclusively in a gloss finish on all metalwork at Fallingwater (see Figure 1-5b). The surrounding verdant landscape seems to intensify during the late spring and summer when viewed through Cherokee red window mullions. Wright favored Cherokee red and specified what became known as his signature color in brick, metal framework, flooring materials, and furniture in other commissions throughout his career. He even opted to have some of his automobiles painted in this hue. Why did he limit its application to the metalwork window and door frames in Fallingwater? Some scholars theorize that he associated Cherokee red with fire forming steel and iron; thus, he applied this color to metal surfaces only.

Documentation indicates that for Fallingwater, Wright's color planning process was both fluid and collaborative. It is not well known that his initial proposed coloration for Fallingwater was gold leaf, not light ocher. The change in thinking about the gold-leaf exterior stemmed from practical realities and client objections. The client, Edgar Kaufmann Sr., and his family also influenced the interior coloration. A department store magnate, Kaufmann was well educated, well traveled, and keenly



interested in design. As clients and creative partners, Kaufmann and his family introduced art, artifacts, and textiles into the space that shaped the interior coloration. All three members of the immediate Kaufmann family (Edgar Sr., Liliane, and Edgar Jr.) contributed to the design of the house, making recommendations to Wright that were incorporated into the final design. After the house was built, Liliane was integrally involved in decorating the interior spaces.

Fallingwater was meant to evolve and change over time, reflecting those who occupied the retreat. While the wall color of the interior architecture has remained the same, new objects and textiles have been introduced into the space over the years, contributing to a developing interior narrative. Edgar Kaufmann Jr. states, “Numerous decades and cultures enliven Fallingwater with art and artifacts, and neither these supplements nor the house and its setting were meant to remain static—Fallingwater grew and still grows.”<sup>3</sup>

For example, the textiles covering the furniture have been changed numerous times since the original monk’s cloth was selected by Wright. In its most recent reincarnation, Doria, a Jack Lenor Larsen fabric, covers the Wright-designed furniture and introduces a textured wool weave of red, yellow, and warm white into the space.

The following material detailing the interior color and material inspirations and origins of Fallingwater was written for this book by Justin Gunther, curator of Fallingwater.

## **Red**

Red, Wright’s favorite color, was symbolic. He quoted Kliment Arkadevich Timiri-azev, plant physiologist and author of *The Life of the Plant*, in the January 1938 issue of *Architectural Forum*. “The color red is invincible. It is the color not only of blood—it is the color of creation. It is the only life-giving color in nature, filling the sprouting plant with life and giving warmth to everything in creation.”<sup>4</sup> In writing about his early years in Adler & Sullivan’s offices, Wright recalled how the “red glare of the Bessemer Steel converters to the south of Chicago thrilled me as the pages of the *Arabian Nights* used to do—with a sense of terror and romance.”<sup>5</sup> Frank Lloyd Wright scholar Donald Hoffmann contends that Wright’s notion of Cherokee red may have been inspired by the soil color of what was once Native American territory in the Midwest.

Wright specified Duco paint, manufactured by the DuPont Company of Wilmington, Delaware, for the metalwork at Fallingwater. He asked DuPont to mix the paint to a “Cherokee red,” sending along a Native American pot as a color guide.

As Hoffmann writes, “He used a product of modern technology to convey historic and even primal associations: red in homage to the Indian, red as an earth-color and symbol of the life force, and, as Edgar Kaufmann Jr. remarked, red as the sign of fire in the working of metals.”<sup>6</sup>

### ***Ocher***

Wright originally wanted to surface the concrete of Fallingwater in gold leaf. Despite his love of red, Wright often praised gold, saying that “yellow is the color of creation, of the earth, of life, of death; gold is the highest life and blessedness after it.”<sup>7</sup> He thought the moisture of the waterfall would transform the gold leaf with a rich and soft patina. Kaufmann, however, felt gold leaf was too extravagant and inappropriate for a mountain retreat. Wright then suggested a mica-white finish from Super Concrete Emulsions Ltd., a Los Angeles company. Kaufmann rejected this as well, saying the finish should blend with the stonework. Wright sent a sample in what he called the key “of the sere leaves of the rhododendron,” inspired by the fallen leaves of the plant. As Hoffmann points out, “He had stained the outer walls of his Hollyhock House, on Olive Hill, to a light gray-green meant to echo the subtle hint of the olive leaves.”<sup>8</sup> Cemelith, a waterproof cement paint from Super Concrete Emulsions, was chosen in August 1937. The order came to 1,340 pounds, and Kaufmann described the color as a light ocher.

Color was very important to conveying Frank Lloyd Wright’s aesthetic of organic architecture as a unified whole. He drew from two sources in determining his palette for a given project: the nature of the site and the nature of the building materials. In the early projects, particularly the Prairie houses that were constructed of brick and stucco, autumnal colors predominate: warm shades of red, gold, brown and yellow-green. These restful yet intense colors were accented by a palette of related hues and created a harmonious, unified and serene environment for the client. At Fallingwater, Wright employed both a limited palette of color and a limited number of materials in his desire to create an organic and integrated whole.

—Lynda Waggoner, vice president and director, Fallingwater

### ***Black Walnut***

Woodwork in black walnut was made by the Gillen Woodwork Corporation of Milwaukee in ship’s quality to resist warping from the moisture of the falls. Although

Kaufmann believed the black walnut woodwork would darken the rooms, Wright and his on-site apprentices assured him it would provide a striking contrast between the furnishings, which are proportioned lower than usual, and the lighter gray stone walls beside and above them. In addition, contrasts in the wood itself add interest and reinforce the lines of the house. While many might consider the appearance of sapwood a flaw in the application of veneers, Wright chose to use the lighter lines of sap as a design element, bookmatching the flitches to create stunning highlights on cabinets, doors, and tables. Apprentice Bob Mosher reported to Wright that “E.J. [Edgar Kaufmann] thinks that walnut [is] too dark.” But Mosher rebutted, saying “that a lighter wood would make everything too neutral in color, and that the contrast between the wood and stone would tend to make the stone appear lighter.”<sup>9</sup> Wright loved wood as “the most humanly intimate of all materials,” and he accepted veneers as a way of achieving continuity, of maintaining “the same flower of the grain over entire series or groups.”<sup>10</sup>

### *Wright–designed Furniture*

Wright believed interior design should be integral to its environment. He designed the built-in furniture as well as a number of freestanding pieces for use in Fallingwater. The continuity of patterns in design from the structure and throughout the interior, carried along multiple scales, creates a rhythm, a harmony, and thus an environment of serenity and repose. Wright looked to nature as his guide in design, often intuitively understanding its lessons. Concepts such as the interrelation of part and whole and the importance of unifying structure and ornament are expressed from the original conceptual framework down to the smallest details. Four primary design motifs carried throughout Fallingwater and its furnishings are the horizontal line—the earth line, as Wright often referred to it; the cantilever—expressing freedom and expansiveness; the cascade—echoing the waterfall; and the semicircle—the soft curve of transition and balance. The furnishings maintain direct proportion with one another and with the building, which is proportionate to the site.

In Edgar Kaufmann Jr.’s words, Fallingwater’s “free-floating seats,” both the zabutons and the hassocks, help “to loosen everything up so it didn’t look stiff. . . . [T]here are two sizes, the higher ones and lower ones. . . . It depends entirely on how laid-back you are, which ones you use.”<sup>11</sup> By using seating of varying heights as well as seating proportioned lower to the ground than furnishings in more formal settings, Wright created a casual environment for the weekend home, one in accord with and conducive to people’s natural patterns of gathering and conversation.



The lower seats, called *zabutons*, are essentially floor cushions and are found in the living room of both the Main House and the Guest House. At Edgar Kaufmann Jr.'s suggestion, they were made of latex foam—one of the first times the material was used in a residential setting. Surrounded by a walnut veneer frame, the cushions have a low, square shape and beveled sides. Upholstered with a red or yellow, heavily textured, wool blend Jack Lenor Larsen fabric called Doria, the *zabutons* create bright splashes of color against the grays and beiges around them. These small but highly visible bits of color act as “signposts of space.” According to Edgar Jr., “They allow the eye to measure distances and areas by providing reference points. This is color used not only for decoration, but to organize space and structure intelligibly.”<sup>12</sup>

To review, Riverview and Fallingwater illustrate color planning criteria in a truth-to-materials approach. Color relates structure to site and references nature with a limited materials palette. Color stories reference water and site characteristics as well as client self-expression and designer signatures. Both processes emphasize composition and symbolism; the Riverside narrative places more emphasis on color related to performance standards contributing to a functioning space, while the Fallingwater account speaks to client involvement in color decision making.

## Summary

The mastery of color can easily consume a lifetime of study. Students are well advised to learn from color in nature or in the city. Observation, experimentation, reflection, study, research, and practice work together to develop expertise in color.

This chapter discussed five challenges to color planning, beginning with an overemphasis on personal color preferences. A second limitation arises from a prescriptive approach to color. Another obstacle to color planning is an overreliance on conventional color schemes that not do fully consider color dimensions or context. None of the project narratives contained in this book conform to preordained color schemes but rather recognize multiple color criteria. The fourth challenge to color planning is the failure to consider specified materials as contributing color to interior spaces. The final barrier focuses on the difficulty of visualizing color three-dimensionally, which threatens the integration of color into the interior.

One way to gain a deeper understanding of color decisions in the design process is through project narratives. This chapter presented processes of designing color in a contemporary and a historic project. The color planning process evidenced in

the Riverview condominium project resulted in a design that works spatially, emotionally, and pragmatically. The process behind the design of Fallingwater led to an integration of color, materiality, form, and site that transcends spatial conformity. Such narratives show commonalities and uniqueness in color planning pathways. To develop color relationships beyond the obvious, consider color in relation to form early in the design process and apply multiple color planning criteria to optimize the quality of interior spaces.

#### NOTES

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1. Linton and Rochon, *Color Model Environments*, 108.
  2. Wright, *The Natural House*, 181.
  3. Kaufmann Jr., *Fallingwater*, 96.
  4. Wright, *Architectural Forum*, 102.
  5. Wright, *Architectural Record*, 350.
  6. Hoffmann, *Frank Lloyd Wright's Fallingwater*, 64.
  7. Beyer, Eric Mendelsohn, 72.
  8. Hoffmann, 61.
  9. Mosher, Bob, letter to Frank Lloyd Wright, Fallingwater Archives, dated March 27, 1937.
  10. Wright, *Architectural Record*, 481, 485.
  11. Kaufmann Jr., edited text of Fallingwater discussion, Fallingwater Archives, dated May 31, 1974.
  12. Ibid.
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