CHAPTER THREE

The spatial quality of colors
CHAPTER THREE (Spatial quality of colors)

3.1 Color application in built spaces

It is difficult to say exactly at what point in time the wayward development engendered by innovative thinking, began to turn into a popular trend throughout the centuries. But due to socio-cultural as well as economical changes, color application in any built form is going to par with the activity pattern and the moods created in those respected spaces. It does not matter whether it is a very simple personalized house in a very rural area or commercial showrooms and other establishments in the city of Colombo for instance the Galle Road stretch from Moratuwa to Kollupitiya, Highlevel Road from Homagema to Slave Island and the Duplication Road recently where lots of commercial establishments, private Institutes likes of banks, phone shops, restaurants, fashion outlets and kiddies centers are mushrooming as a result of over riding open economy, high competition and globalization as a whole.

It does not matter whether it is inside or outside of the building but a single scenario that of any color or colors irrespective of the materials, texture and the environment or even the activities play a major role in space building. Excel ceramics and like "Sweet Chilli" the restaurant, Gallery Café and Splash by the side of Diyawanna Oya or may be the interiors of Nolimit, Arena or the Odel, the Phone Arcade which sparkled out in many huzzle and buzzle streets in Colombo gives us an important of useful color applications. Or it might have been the Hong Kong and Shanghai Bank's tricolor quoin at the intersection of Baudhaloka Mawatha and Duplication Road that did it. Whichever it was, they showed us a hitherto untapped potentiality and opened new vistas for us. Be that as it may, at present there definitely seems to be a marketed acceptance of what was formerly deemed to be outside the pale of social propriety. That which was formerly considered vulgar and outré, has now received the seal of public approval.
Thus, the bland-hued sobriety of our culture, leveler of social inequity and mental contrasts among other things, notwithstanding, a new consciousness informed by a more exuberant and life-affirmative attitude towards color, has been slowly but surely altering our tectonic sensibilities over the last few decades. Our urban streetscapes, commencing from downtown Colombo and fanning out towards suburbia, have begun to reflect this new trend.

The Architecture is not an exception in the world of colors where any man built buildings or spaces are subjected to colors where it seems to be the ultimate dress or skin of the building. The vastness of the field of Architecture that of form and space making process see line of color using approaches by many great Architects irrespective of country, religion and the ability. But with the analyzing of buildings throughout the centuries in the evolution of Architectural languages* around the globe give us the clear message that using colors mere do not art oriented, personalized bias scenario but a carefully studied science oriented and combination and artistic values as well for that matter consideration of activities, purpose, cultural and contextual approaches and more importantly the climatic conditions of the region.

As the world renowned Mexican architect Luis Barragan (1902 – 1988) mentioned color as “complement to architecture where it can be used to widen or enclose a space where it is also imperative for adding that touch of magic to an area...”. But all too common is the misconception that Barragan used color with wild abandon. People envisage his buildings as endless stretches of candy-colored pinks or bright yellows. In fact, Barragan gave much thought to the questions of which color to use and where to apply*. Therefore for any Architect, color can be considered as one of the most important elements when he gives meaning to an area or to accentuate a space.

Architecture is a spatial experience. It is the process of creating spaces for the human being make them feel comfortable, meaningful and harmonious existence. A built space is always intended for a specific existence: and it doesn’t merely a physical object with heights, widths, proportions, details, finishes, texture, lighting levels and color but it also has human thoughts, emotional values, feelings, moods and sensations as well. Therefore color utilization in built spaces has to have spatial expression as it gives the real spatial quality of that particular space.
3.2 Use of color in ancient Architecture

On the way of finding the so called "timeless color for Architecture" and the ancient examples may have to look be looked upon where lots of lessons can be learnt considering the Sri Lankan point of view the time worn walls of Sigirya or a textured wall surface of an ancient palaces in Anuradhapura and Polonnaruwa and in the application of color to built surfaces sustainable in the Sri Lankan context, one may find satisfaction and spirituality in the use of pigmented cement render as is being explored in a handful of buildings by local practitioners.

"It has been nearly 100 years since the iridescent hexacolor designed by the Anagarika, representing the six-rayed aura of the Buddha, saw the light of day in our part of the world. The pyramidal Gopurams of the Hindu faith, bursting with polychrome mythical life; have been around for even longer period of time. Despite the vibrancy of the robust color combinations that they have been presenting to our gaze, our bustling urban centers have only just begun to reflect in their built environment the color propriety that has been sanctioned through such religious symbolism. The rather puritanical notion of what constitutes a socially acceptable norm with regard to color, which held sway up till almost the last decade of the previous century, seems to have given way to a more tolerant attitude towards its use. This has paved the way for the mutual reintegration of the secular the religious domains in our country."

3.3 Use of color in contemporary Architecture

The saturated bright color and contrast are often used in Sri Lankan Architecture nowadays especially integrated with cubistic and sculptural compositions driven by the mind's of the Architect.

"Are fond of colors but have not the fine sense of it.... The tints with which they paint their houses are crude until toned down by the summer rains...." She was troubled by skirts dyed a horrible bluish - pink of a most unpleasant brilliancy”. Even the bougainvillea was deemed to cause “more distress than pleasure to the artist”. It seems to harmonize with nothing and is so strong in tone that it positively jumps at one from supporting walls with its almost leafless abundance of crude color.

-Ricardo Legorreta "The Architecture of Ricardo Legorreta” Published by Thames and Hudson 1977.

"Thus the bland-hued sobriety of our culture, leveler of social inequity and mental contrasts among other things, notwithstanding, a new consciousness informed by a more exuberant and life-affirmative attitude towards color, has been slowly but surely altering our tectonic sensibilities over the last few years. Our urban streetscapes, commencing from downtown Colombo and fanning out toward suburbia, have begun to reflect this new trend.”

"It is difficult to say exactly at what point in time this wayward development engendered by innovative thinking, began to turn into a popular trend. Perhaps, it was the iconoclastic presence of the incandescent showrooms which sparked off this chain of events. Or it might have been some other building in Duplication Road. Whichever it was, they showed us a hitherto untapped potentiality and opened new vistas for us. Be that as it may, at present there definitely seems to be a marked acceptance of what was formerly deemed to be outside the pale of social propriety. That which was formerly considered vulgar and outré, has now received the seal of public approval."


Colors may be used in according to two distinct approaches:
1. Rational motivated/ self conscious/ deliberate/ thought out approach
2. Instinctual/ emotional approach based on an inner logic.

In some built fabrics an emotional response to a color has been showcased within a framework of rationally worked out spaces. In some a rational manipulation of planes has been carried to an extreme, in order to provide a surface for emotional use of colors. The gallery Café on the other hand which consider as one of the case studies presents to our gaze a rich tapestry of textures which sates, not only our sense of sight, but that of touch as well.

The second approach one or the onlooker has to possess the selfsame logic in order to see the applied color scheme looks meaningful to him.

"It is not the colors or the art that we honor in the image, but the archetype whose image it is which finally gives us the message"

–St.Basil "The Color and Architecture" Published by Thames and Hudson London 1989

"Archetypes are the residue of a common substratum in human beings, which he refers to as the collective unconscious, a sort of racial memory. Thus, an instinctual response to color, could be indicative of the subliminal tug of an archetype that might be at any given time, welling forth from the psyche of an individual. Theses are the factors then that determine the second usages. The works which illustrate the theme of this issue, concern themselves mainly with this category"

–Carl Jung "The Color and Architecture" Published by Thames and Hudson London 1989

M.Sc Dissertation
Marcel Breuer’s penetrative observation with its inversion of sensory functions may be cited here to illustrate the impact of color when it is used in a non-intellectual way:

"Colors which you hear with ears:
Sounds to see with eyes:
The void you touch with your elbows:
The taste of space on your tongue:
The fragrance of dimension:
The juice of stone:

-Marcel Breuer "The world of Colors" P:78 Published by Duo Plusa Hamberg, Germany 1989

Architectural philosopher Christopher Alexander refers to this charged quality in our built environment as "the quality without a name" That its presence is infinitely desirable, is attested to in his mystically poetic "Timeless way of building".

"The quality without a name is circular. It exists in us, when it exists in our buildings: and it only exists in our buildings, when we have it in ourselves."

-Christopher Alexander "The Pattern Language" P: 64 Published by Thames and Hudson, London 1974

"The sun never knew how great it was until it struck the side of a building"


Therefore the colors itself always create some self conscious in any one’s mind from any built form irrespective of their functionality but it strongly follows the true path of meaningfulness when we consider the building type and the archetype of that particular space.

Fig.113 Fig.114 Fig.115 Fig.116
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3.4 Color in urban context

Corner treatment
Corner treatment in Hong Kong and Shanghai Banking Corporation by tri color quoin at the intersection of Bauddhaloka Mawatha & the Duplication Road. The colors used are red, purple, green and red in vertical stripes 6’ 00” width.

(Fig.117)

Orange entrance demarcation
Entrance demarcation by bright orange color in the “Awaranaya” building in the Borella cemetery Junction which governs the other hues that of blue and white.

(Fig.118)

Canopy detailing by Red
Only canvas roof canopy is highlighted by dark red color and it was merged with the black colored scaffoldings, dark brown color walls white existing column in the front of the “Royal Bakery” pastry shop at Welawatte.

(Fig.119)

Monopoly governance in the face
The entire façade of the Italian Collection showroom in the Duplication Road is covered with yellow colored hue and it is the prominent color in the building.

(Fig.120)

Two color friendship
The orange and the blue twin color utilization in the façade of the “Singer Mega” showroom along the Galle Road, Mt.Lavinia.

(Fig.121)

Vertical color band
Only the column is high lighted in the Sun Street Building in Battaramulla by orange color while the rest of the building is painted with dove white at the front, rear and two sides.

(Fig.122)
3.5 Colors and their expressive moods

Considering the above mentioned theories and supportive quotations of psychological factors of different Colors or hues and in-depth characteristic values which leads to various physical and psychological changes on human beings in the given built environment concerned a study can be done according to the tint, saturation and electromagnetic radiation of each and every color as well as expressive psychological effects as well.

Color not only feeds the eye but has both physiological and psychological components. The following provides a nutshell description of what each color conveys in physically that of visual effects and psychological effects and how it can affect the viewer emotionally and physically.

Vatness through neutral colors

Big and small through contrast colors

Sydney Opera House, Guggenheim Museum New York and Ron Champ by Corbusier are some of the massive land scale sort of buildings where that vastness was multiplied by using neutral colors such as white, grey and black or combination of that while a comparatively small Park de Villa and Pompidou Centre, Paris uses contrast colors like red or orange.

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3.6 Visual effects with colors

Even though working with color schemes are vast and mostly depends on the person’s own style and personality utilization and application leads to lots of visual effects that have to keep in mind when considering the physical phenomenon and spatial quality of various hues in any of the architectural space.

1. Contrasting schemes - Colors that are opposite each other on the color wheel and it tend to create a bold and stimulating effect.

2. Blending scheme - These are based on different shades of one color. Theses are suitable for subtle and calming effect.

3. Harmonious scheme - For colors that complement each other. Choosing shades that are not more than two colors apart in the wheel will give this scheme.

By using color creatively in such a way as make-up, it is possible to alter a room’s appearance, highlight its features and skillfully camouflage any blemishes or even any weak spots.

1. Using light colors - White hue on a ceiling is widely used to add height to a room although any light color will work well. Contrasting with a dark, advancing wall color will be ideal.

2. Extending the wall color - Creating the illusion of height by continuing the wall color onto the cornice and skirting. Complement the effect with a ceiling in alight tone.

3. Camouflage details - Architectural features such as dado rails can shorten a room’s proportions. Painting the ceiling color as the wall make the ceiling more lower.

4. Highlighting features - Creating visual interest by picking out details such as skirting or window frames in a contrasting color.

5. Painting one wall - Painting one wall with a different color and throwing the proportion out of balance can make a space more excite.

6. Choose light tones - White and other cool light tones gives a smaller room more spacious and large effect.
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3.7  Psychological effects with colors

3.7.1  Cleanliness through Blue

Blue is the favorite color of both genders. Depending on the shade, blues relax, soothe, and make us feel more spiritual and centered. Blue is intuitively chosen for bedrooms for just this reason. It also improves productivity, so a good blue might be the right choice for a kids' rooms where they will be studying. Blue is also considered to be a clean color, so it works well in bathrooms and laundry areas. Blue seems to work less well in kitchens...maybe harkening back to our primitive instinct to avoid blue foods. When blues are used in connection with food, they can have the effect of suppressing appetite, which could be a good thing if you want to lose weight.

![Fig.131](image1) ![Fig.132](image2) ![Fig.133](image3) ![Fig.134](image4)

3.7.2  Excitement and appetite of Red

Red has the opposite effect of blue; it increases blood pressure and respiration rate. Red also makes people lose track of time and stimulates appetite. Red is a powerful color so it's generally best used as an accent. However, certain shades like orange-red and brown-red may be muted; they are cozy, comforting earth colors like terra and bricks. Using red makes a powerful statement, so red furniture and accessories should be clean and in good condition. Ratty red furniture is likely to look really ratty...not just marginally ratty.

![Fig.135](image5) ![Fig.136](image6) ![Fig.137](image7) ![Fig.138](image8)
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3.7.3 Playfulness through Yellow

Yellow tends to cause more eye fatigue than any other color. It increases metabolism and upsets babies. People also tend to lose their temper more often in yellow rooms. Yellow often makes many people feel cheerful, energetic, and happy. Buttery shades are easier to live with for a long term than bright, sunflower yellow. The range of yellows is vast and some lend themselves more readily to decorating schemes than others. Yellows also frequently prompt more opinionated feelings than other colors. People who like it, really like it and people who don’t, tend to dislike it intensely.

3.7.4 Calm and relax through Green

Greens represent a vast range of natural colors and, for that reason, appeal to many like blues. Greens tend to calm and relax; it’s a healing color. For interior color schemes, greens seem to be appealing because of their neutral character. Lighter shades of both are easy to live with for a long time. Both combine well with many colors. Dark greens are favored as a traditional color like blue. Yellow greens and muddy yellows are relatively unpopular. Green is one of those colors that delivers a big punch, but gets tiring quickly; as such, it might be better to use it in small doses.

3.7.5 Entrance feeling of Orange

Oranges are warm, welcoming, and vital. Melon and yellow-orange mango are bright, cheerful, and tend to improve appetite. Used in kitchens, breakfast nooks, and dining rooms, orange shades can be very comfortable. Most of the restaurants, fast food outlets and cafes are painted with orange due to its ability make the appetite and thirst in the first hand experience. Orange mixed with some red and yellow is the most ideal color in a dine space.
3.7.6 Spirituality through purple

Historically, purple is the color of kings. It may arguably be the most opulent of colors, and often connotes mystery or spirituality. Purples run the range of the red-purple such as eggplant to the blue-purples of a summer sky at sunset. Saturated purple is a dense, dark color that can provide a potent punch of color with great impact. As a tint, purple tends to lavender and is one of the daintier colors favored by many young girls. In certain shades, it can become a subtle, but very flexible and neutral.

3.7.7 Minimalism through Black

Black is a color that denotes submissiveness (i.e., the cleric’s black robes in Christianity and submission to God). On the other hand, if someone likes many, you find black to be timeless, classy, and sophisticated. Dark colors generally make rooms seem much smaller than they are, so unless you enjoy cocooning, black might not be a great choice for background color especially on walls. Still, the number of color combinations using black are huge, though some like orange and black tend to have holiday connotations that downing downright irritating year in and out. One current trend is mixing a neutral room with some pieces of black furniture.

3.7.7 Vastness through white/grey

[Images of architectural designs]
3.7.9 Black – white combination

Mixing the white with black is one of the recent trends in color applications in houses. For the home, we see the black and white in combination of various materials. It makes a grand statement in the dining or an elegant look to the bathroom. The color combination in fabrics, wallpaper, art work and also in accessories are ideal. Black and white toilets are hot as well as bold like black and white graphics. These black and white opposites attract users. Black is the color of mystery and status while white is the color of purity, newness, simplicity and youthfulness. The combination is straightforward and honest, with a lot of visual drama. Mixing in yellow for freshness or deep red for an unforgettable accent color is another option. Spiritual spaces such as churches should be ideal spaces for Black-White combination which creates some holistic and spiritual feelings more elaborate.

Using black for houses is too bold to apply. It looks room too smaller. Technically, it’s a non-color. In some of the jewelry shops in Colombo black is applied next to diamond or gold displays as it gives a clear picture of the items with a dark backdrop. Black lampshade, black matting on a picture, a black book on the coffee table or an interesting piece of pottery are always cynosures. When you mix touches of black in a colorful room, that black color is what your eyes will “rest” on. It gives you some relief from the contrasting of the other colors. It becomes the transition color. The black is one of the greatest of all neutral colors.
When a black ceiling is on top of your head you feel like the ceiling is down right on your head. Sometimes black can create an infinity effect. Experts say that if someone loves black he or she is so sophisticated and that they understand prestige. They are willing to try new ideas and aren’t afraid of stepping outside comfort zones.

3.7.10 Feminism and Pink
Pink is an interesting color because it has the cultural associations of being feminine, but it goes farther than that. Research shows that pink rooms reduce angry behavior at least temporarily. Some attempts have been made to use pink in prisons to control aggressive prisoners. Pink generally is a comfort color and is favored by many for its sweet, childlike appeal. It’s a good choice for a young child’s room; young girls often like pink and lavender combinations.

3.7.11 Grey for livable
Grey tends to enhance creativity, which can make it a good color for offices and studios. Grey is also favored as an executive color. As a neutral, grey provides an unobtrusive background for an infinite number of color combinations. Grey on walls is often very livable for a long while, provides an unobtrusive neutral background for furnishings, and are extremely flexible with respect to style. Grey can be buttoned down and traditional, modern and contemporary, or beach house friendly.

3.7.12 Brown for security
Brown is all about security, credibility, and reassurance. It also tends to be soothing and comfortable. Browns wear well and are good for rooms that get a lot of use like family rooms. Browns also work with spicy or warm colors. Like grey, browns span a broad range of neutrals and, depending on the shade, are appropriate for almost any room.

3.8 Gender difference to various colors
Although findings are ambiguous, many investigations have indicated that there are differences between genders in preferences for colors. There is hardly any research on colors related to build forms done in Sri Lanka. Investigations done by Guilford.B (1934) of United States of America on the harmony of color combinations found that a person is likely to see balance in colors that are closely related or the opposite. Guilford also found some evidence that more pleasing results were obtained from either very small or very large...
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differences in color rather than medium differences, with this tendency more frequent in women than men.

A review of color studies done in early 1940’s notes the following results to the relationship between gender and color. They found yellow had a higher affective value for the men than women and maintained that blue for men stands out far more than for women. An even earlier study found men preferred blue to red and women red to blue. This study, however, found only one gender difference with yellow being preferred to orange by women and orange to yellow by men. This finding was reinforced later by Birren D (1952) of United Kingdom who found men preferred orange to yellow; while women placed orange at the bottom of the list.

Guilford.B and Smith John (1959) found men were generally more tolerant towards colors than women. Thus, Guilford and Smith proposed that women might be more color-conscious and their color tastes more flexible and diverse. Likewise it is found out that blue green was more favored among women than men, and women preferred tints more than shades. They also found 55% of men and 76% of women preferred cool colors, and 51% men and 45% women chose bright or warm colors.

Richard Kuller (1976) conducted a study on the effects of color in two opposite environments. Six men and six women were asked to stay in two rooms; one room was colorful and complex; while the other was gray and sterile. Electroencephalogram (EEG) and pulse rates were recorded throughout the period, as well as the individuals’ subjective emotional feelings. The results showed heart rates were faster in the gray room than in the colorful room. Moreover, men were found to have stress reactions more than women. Men also became more bored than did the women in the gray room.

Thomas, Curtis, and Bolton (1978) interviewed 72 Nepalese and asked them to list the names all the colors they could think of. There was a significant difference between men and women. Although, the women consistently listed more color names than men did, the cultural context of this study must be noted since Nepalese women traditionally wear more colorful clothing than men do. A similar study by Greene (1995) examined the color identification and vocabulary skills of college students. They were asked to identify the colors of 21 color chips. The results showed that women recognized significantly more elaborate colors than did the men. Findings also indicated that gender different responses in color identification may be attributed to a difference in the socialization of men and women.

More recently, Radeloff (1990) has found that women were more likely than men to have a
favorite color. In expressing the preferences for light versus dark colors, there were no significant differences between men and women; however, in expressing the preference for bright and soft colors, there was a difference, with women preferring soft colors that of pink, white and light grey and men preferring bright ones like red, blue and yellow.

Thomas and Curtis (1978) also found out that men are more prone to have painted their houses with contrast colors than women where male Architects also have brave enough to nominate red, orange and yellow colors to their respected designs.
Summary

There are some principle guidelines that Architects and other professionals should follow when choosing colors for particular audiences. The red commands everyone's attention! It's perceived as a warm color. Many fine dining rooms including restaurants and cafes are painted red because it creates appetite, hungry, thirst, warmth and a good feeling effect. Everyone wants to sit and enjoy another cocktail or cup of coffee while talking. Red is a good choice for dining rooms at homes, because it increases the heart rate, appetite, passion and energy. And diners rarely go to sleep, or at least wait till after dinner. Red stirs strong emotion and is said to be a very powerful, warm color. Maybe red is too bold for some people. It will add a regal tone to the space. This might surprise everyone, but if someone looks at a color wheel, the perfect complement to red is orange! They are perfect because they are close and bit far each other on that color wheel. The mixing these colors with black and white is ideal. Lighten the red to the deep orange-pink and you might also love soft yellow, mixed with that pink and dark orange. It is said that if someone loves red, he or she is outgoing, extroverted, wanting to experience new situations and are optimistic.

Orange means warmth, friendliness and welcoming, and is appropriate for living rooms and children's room. This zesty, energy-filled color is related to red in the fact that it's also a bold color. The oranges can be a soft orange fruit, ripe mango, salmon or coral. You will find these colors in many prints from traditional to contemporary to tropical. Because orange is such a saturated color, many of you will be more comfortable using it in small doses because our eyes tire of that color first. We tend to balance this color with wood furniture and neutral earthen tone colors. It's a color scheme that is timeless and so easy to live with. The orange color scheme is not for the timid of heart. People who love orange are good natured and charming. Any one is said to be adventurous as well as enthusiastic.

Green represents harmony and balance and is so easy on the eyes and calming. It is the only color that mixes so well with just about any color on a wheel. Pair reds with greens, purples with greens, corals with greens, yellows with greens, and blues with greens and ultimately green with greens as Mother Nature does in her natural color palette. People who gravitate toward green are said to be kind and generous, intelligent and dependable.
Blue is also an appetite suppressant, however, so unless someone is on a diet or are a bad cook, avoid using it in the dining room. Thinking of water, sky, sea, beach blues, maybe your favorite blue jeans. These colors are comfortable, soothing, serene, cooling and refreshing. Blue is an ascending color that means it can make your space look larger. Blue has influenced the reds as well as the greens. Blue has always been a popular color. Because of the lack of true blues in floras in Mother Nature, many blue and white patterns seem to be checks, stripes and plaids. These geometries mix well together or with other prints. In fashion, navy seems to have made a comeback and see dark denim as opposed to a washed out, worn denim. People who love blue are sensitive, organized, patient and conservative. They are said to be aspiring to harmony, serenity and peace.

The color of purple has been associated with royalty. It has also been associated with passion. In nature, purple is not a prevalent color. Some flowers, plums, grapes and eggplant are about it. Purple is a mix of blue and red. Its color range is from light to dark. Sometimes perceived as fragile and delicate or more of a lady's color. There is another color of purple influenced by the blues. A person who likes purple is highly creative, witty, spiritual, and have observation skills.

The freshness of a white or off-white looks elegant inside as well as outside. It has curb-appeal. If you are using it doesn't matter what color you use on the room side because the street side will always be neutral. The color of neutrals starts with white to off-whites of cream, buttermilk and ivory. The color of the neutral is determined by the undertone. Neutrals can be mixed with any color or with other neutrals. If you like white and neutrals, you might be innocent, self-sufficient, immaculate and youthful. Your family is a priority and you are a good money manager.

Therefore every color has an associated thought, emotion and behavior pattern in it where application of those in an any architectural space can create itself the emotions and enhance the activity and usage pattern of that space and specific colors can create an unbelievable activity booster: restaurant and cafes can have appetite stimulated red, orange and yellow colors.