

PSYCHOLOGICAL AND SPIRITUAL EFFECTS OF LIGHT AND COLOR FROM IRANIAN TRADITIONAL HOUSES ON DWELLERS

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ABSTRACT

Light and color are the elements that has been playing important role in traditional architecture of Iran. Application of shadow and light with each other has been from the works that gives the mystical sense to the space, especially in religious spaces such as mosques. In view of light, as a major space component, the overall composition, with adjacent servant spaces, find a particular form of organization, which is centralized and where hierarchies define the general pattern. The order of structure, in which light comes as a containing discovering geometry, commands subsidiary openings, which imposes a disciplined regularity of spaces whilst offering greater complex layers of perception. In Iranian architecture, the study of light and color, in accordance with volumes and structure, has always been considered as an essential part of the different stages of the building and its realization. Giving the sensation of unity, this remains at the center of some conceived world's spirituality. Unfortunately false imitations from western architecture have given beautiful features but senseless spaces to the contemporary architecture of Iran. the proper teaching and tutoring the Islamic architecture with its principles, especially with suitable light and color applied, not only can describe a suitable feature of architecture, but also defines it in a word that revives the identity of Iranian architecture.

Keywords: *Iranian Islamic Architecture, Color and Light. Psychology, Mysticism, Dwelling Space*

INTRODUCTION

Some scholars defined that, the meaning of dwellings has been studied from many different perspectives such as psychology, phenomenology, sociology, and environment-behavior studies (Despres 1991, Moore 2000, Mallett 2004). In addition several authors have argued that a more integrative and interdisciplinary approach is needed in which physical, socio-cultural, psychological and economic dimensions are interrelated (Despres 1991, Somerville 1997). The meaning of dwelling has been studied from many different perspectives such as psychology, phenomenology, and sociology and environment behavior. Several authors have argued that a more integrative and interdisciplinary approach is needed in which physical, socio-cultural, psychological and economic dimensions are interrelated. What is lacking is an approach in which dwelling is considered as integral part of environment-behavior relations.

According to Madanipoor (2003), Home is the spatial unit that combines a number of traits of private sphere, as we have so far discussed. It provides personal space, a territory, a place for being protected from the scrutiny of others, a location in the social world to engage in social life, which is socially acknowledged and legalized. In addition to being a haven for individual, it is also a place for social unit, which has for long been the family; it is therefore also a place of living for a handful of people in a close, intimate relationship. He also explained, Home has been praised as the key node of society, as the place where identities are shaped and memories are rooted. It is a center of intimacy. Intimacy, as Nagel asserted,

'creates personal relations protected from the general gaze, permitting us to lose our inhabitation and expose ourselves to one another'. (Madanipour 2003)

SOCIO-CULTURAL ASPECTS OF HOME

Benefits of home comprise several categories:

- 1- Benefits related to independence, such as privacy and control over physical features of the home environment;
- 2- Benefits related to familiarity of a particular home environment, for example, ease of finding ones way around;
- 3- Benefits related to residence in a specific neighborhood, including a social network of friends and neighbors and access to community services;
- 4- Benefits related to the activities of home maintenance, as a source of physical and mental exercise and as a source of meaning;
- 5- Benefits related to the home as a place to entertain friends and family, to reciprocate hospitality, and to pursue vocational activities;
- 6- Benefits related to the home as a locus of meaning--the site of important and memorable life events .Homeowners may enjoy the further benefit of their home as a status symbol and tangible asset.

Over and above these considerations, some people appear to feel attached to their homes much as they would feel attached to a significant person their love transcends any rational calculation of benefit. They can enumerate reasons why a move would be wise but then conclude that the only way they would leave their home would be in a box. (Fogel, 1992)

THE ROLE OF LIGHT AND COLOR IN A DWELLING

Dwelling spaces are the most important and also sophisticated spaces that human respond his needs there. From the earliest caves, daylight informed the lives of the inhabitants, initially in the difference between night and day; but as dwellings became more sophisticated, by means of openings or windows letting in light. The history of architecture is synonymous with the history of the window and of day-lighting from the initial crude openings, letting in light and air, heat and cold, the window was the vehicle for the introduction of daylight, and ultimately to the wondrous interiors of the mediaeval cathedral, the Baroque churches or the many private buildings of the eighteenth century.

From long time ago, still the bright things which reminds a living thing in human's mind, has been respectful and being worshipped. In most religions light is the symbol of the divine wisdom and the element of all goodness and purity, and going from darkness to brightness have been the main target. (Philips, 2004) Dwelling spaces are those spaces that interpreted the sense of place for human. If there wasn't any sense of place for human, tiredness and discouragement would be appear and house is the place that creates love and warmness for all dwellers. Our experience of color has many curiosities. Why do the colors that are so vivid under the midday sun disappear by moonlight? Although we can still clearly make out form and some detail. Why do some colors look different when viewed by daylight and artificial light, but other colors look the same? In addition, although a white surface can look white in sunlight, north light and fluoresce light, why does color film record it so differently? Underestimating the importance of color is a common error in architecture; it has great influence on the final look of spaces and also on the way the people perceive them.

Colors can affect feelings, concentration, and even health. Studies undertaken in offices and factories have demonstrated that the use of certain colors calms workers. Reducing stress levels and improving overall efficiency. Today chromo therapy is used to study the benefits of color on an organism. Although the effect of color on a specific organ is difficult to quantify, there does exist a general psychology of color. Goethe was already writing about the characteristic of color and their effects on humans in his time. In her piece “The psychology of Color’ Heller (1989) states that the sensations or reactions created by color are a universal rather than personal experience, and are linked to cultural, anthropological and even biological factors - given that colors develop sign value and this information is passed on through generations over time. According to Heller (1989), colors induce automatic and unconscious reactions and associations; for example references to nature such as forest/green or sea/blue. Every culture gives colors Specific Symbolic and mo meanings and most of the times these meanings coincide. Warm colors like red orange and yellow are seen as stimulating and jovial whereas cold blues and greens are deemed relaxing and serene. Since in Iranian architecture house was a respected area in which all needs were fulfilled, it has also included the psychological aspects of life. Traditional architects were also aware of psychology of colors and used them in order. Here are some effects of colors to comprehend the feelings of dwellers in the dwelling area. (Heller 1989)

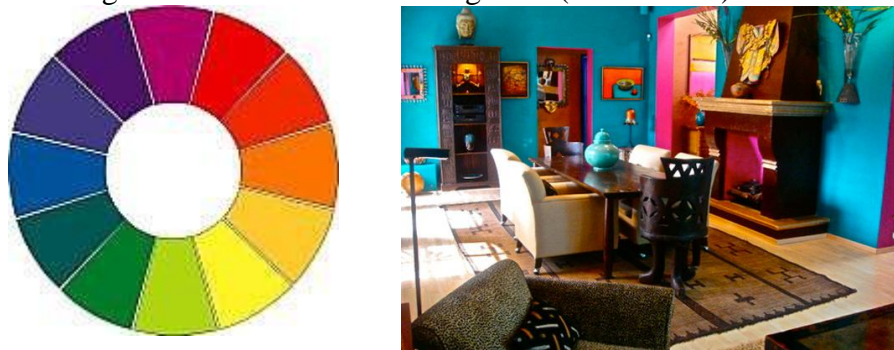


Figure. 1. The circle of Color, and color application at home

The mechanism of color perception is complex. In addition, to be able to specify the architectural use of color with a sound knowledge of the implications, it is necessary to understand a little of the science behind color and color vision. Without getting too deeply into an existentialist discussion, it really is true that, in the absence of light, there is no color. Color is indeed in the light, as demonstrated by Newton in his classic experiment. White light consists of a spectrum of colors - red, yellow, green, blue, and violet - and the sensation of whiteness is present when there is a combination of these, although the proportions of different colors do not have to be precise values.

Light from the sun and sky, light from hot surfaces such as candle flames or incandescent filaments, and light from fluorescent lamps all give light that we would broadly describe as white, although, as the spectra show, the composition of this white light varies. We shall now show that the property of color, which we normally attribute to a surface or object, is due to the absorption of part of the spectrum by the pigment or dye, and the reflection of the remaining parts. A century after Newton had shown that white light contained all the spectral colors, the scientist Young proposed the Tristimulus theory of color perception. (Baker & Steemers 2002) This states that any color sensation can be generated by a combination of three primary light colors. These were identified as red, green, and blue. A combination of any two of these results in a secondary color sensation:

- Red + green = yellow
- Green + blue = blue-green or cyan
- Blue + red = magenta

The resultant colors are described as being complementary to the third color — i.e. the primary color not present in the combination. Thus:

- Yellow is complementary to blue
- Cyan is complementary to red
- Magenta is complementary to green

Note that we are discussing here the addition of colored light, not pigment or dye. Note that the three primary colors are not quite the same as the red, yellow and blue that we were probably told were primary colors in our early art classes. Nor are they the color of inks for color printing, which are magenta, yellow and cyan — that are what we are calling secondary colors. (Baker & Steemers 2002)

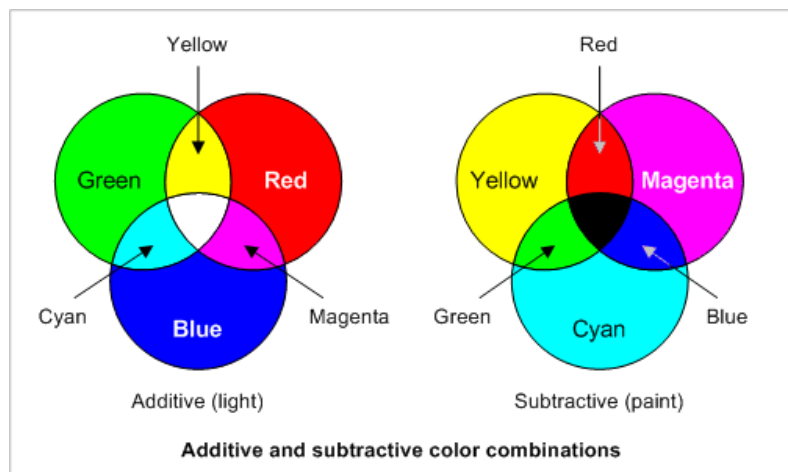


Figure 2. The superimposition of two of the three primary color lights red, green and blue produces the secondary colors yellow, blue-green or cyan, and magenta. The addition of the three-primary colors produces white.

PSYCHOLOGICAL EFFECTS OF LIGHT ON HUMAN

A number of factors in a constructed environment influence the psychological and emotional state of users. Light intensity and color are two important factors with impact on the user's performance in the space. While people are known to adapt to different environments, it is believed that there is a loss of productivity and general well being if they are not in certain conditions. According to some scholars, lighting can play an important role in reinforcing special perception, activity, and mood setting. Nadeen (2006) reports that light should produce a mood and atmosphere in a room, which corresponds to people's demand and expectation.

The literature on light is extensive, however it does not present a uniform set of findings for a consistent perspective on the influence of color and light. Nadeen (2006) also reported in his research that "one problem that designers and engineers face is that no

common accepted metric of lighting quality predicts the effects of the luminous environment on the occupants. It is commonly assumed that poor lighting quality has negative impact on the ability of people to perform their work; however, few studies have attempted to quantify lighting quality as a whole, and none of these has attempted to relate quantified quality to task performance". He also reports that comparison between studies is nearly impossible because different researchers have used different scales. Also their documentation of the outcome measures fall far short of the detail normally demanded by behavioral scientists, which creates problems for later re-evaluation of the data.(Nadeen 2006)

According to Helmut Koster (2004), light synchronized the human biological clock with day, night, and seasonal rhythms. A lack of natural daylight can lead to disorders of the autonomic nervous system, loss of energy, fatigue, a tendency toward self-isolation and metabolic disorders. Conversely, intensive light therapy has been shown to support the healing process. Retro-systems from the company RETRO solar preserve the full daylight spectrum. Optimal daylight planning is vital for a 'light dynamic interior'. Koster (2004) also mentioned that, by contrast, the supply of natural light is blocked or eliminated in many administration buildings by anti-sun glass and vertical blinds installed on the interior, resulting in a need for artificial lighting and creating a monotonous light ambiance. Intensive light deflection in particular, of the low-lying winter sun, transforms the workplace into a space where sun and light can be experienced with all the senses. At the darkest time of the year this approach can provide intensive, albeit glare-free, day lighting. (Koster 2004)

According to Philips (2004), the problem often associated with lighting, described as Seasonal Affective Disorder (SAD), affects quite a large number of sufferers (a figure of a million has been quoted) and is said to derive from the lack of sunlight during the winter months, from September to April. Whilst for most people this is not a serious problem, since most of us feel slight depression when there is a lack of sunlight over a long period, for others it can be debilitating. It is certain that those people in work situations, which have access to natural light, with periodic sunlight, are likely to be less affected by SAD, whilst those in very artificial conditions are more likely to suffer. Philips (2004) also reported that, what is clear is that whilst a building should provide access to natural light where possible, it would be quite impractical to try to overcome the effects of SAD by increasing the normal building lighting system. The health of a workforce is vital to the success of an organization, and it is therefore of the greatest importance that the lighting of a building acts with other environmental systems to create healthy conditions. To cut down on lighting to save money at the outset of a building design makes no sense if it reduces the performance of the much more expensive work force. Lighting design can contribute to the health and amenity and consequently to the performance of the whole operation.

a) Light in Theosophy and Islamic Mysticism

Mostly in our daily lives, there is a conflict between our mind and world, so there will be several theoretical processing. These theoretical processing is completely different from scientific theories. In scientific theoretical processing, human is directly involved with the environment around him, so the mind is free of any conflicts. In another kind of theoretical processing, mind is not free and it is not in a direction with the world. This type of philosophical science is metaphysics.

Sohrevardi, one of the brilliant Sufi masters has a theory named 'Ishraq' illumination, which means that the origin of all creatures and the whole world is light, and this light is changeable due to its density. One of the most important differences *Ishraq* has from other

wisdom is the relation of light and theosophical aspects. With no doubt, Sohrevardi was inspired by Al-Nour verse of Holy Qur'an. Two aspects can be effective in metaphysical views of light and will be explained as following; light in theosophy, mysticism, and psychological aspects of light.

The very notion of Islamic Architecture is perplexing. Islamic Architecture has many shapes and forms, crossing different climates and cultures, each being distinctly "Islamic". The only reason that it has become known as "Islamic" architecture is because Islam, the political and spiritual power, ruled over it, in a unitive fashion. It is only recently that the creation of countries and nations in the Islamic World exist. This separation of Muslim lands tends to add more confusion in the understanding of Islam and Islamic Architecture. This was the intended reaction. For the Muslim or Islamic person now, Nationalism takes precedence over Islam. Making it confusing for the nationalist Muslim to classify, what is Islamic Architecture now. Nationhood is something foreign to Islam. Dar-il-islam (land of Islam) and Dar-al-harb (Land of Non-Muslims) was the only language used by Historical Muslims. (Mukri, 2004)

Islamic Architecture will always exist now and in the future but what people perceive of Islam will always change. Each change progressively going away from the center and origin. Authentic forms of Islam are hard to find nowadays, this fact will reflect the present and future of Islamic Architecture. The Muslims have always defined Islam and Islamic Architecture; hopefully we will define it well in the ever darkening world we live in. Muslims be it Sunni, Shi'a, *Wahabi*, *Tablighi*, Sufi, *Ahmadiyyah*, progressive, modernized, Iranian, Moroccan, Turkish, fundamentalists, backward, traditionalists, apostates, and on and on, define Islam and Islamic Architecture. Be it past, present or future.

The famous verse of 'light' in the Qur'an, the Ayat al-Nur, whose first line is rendered here in the mural behind me, inspires among Muslims a reflection on the sacred, the transcendent. It hints at a cosmos full of signs and symbols that evoke the perfection of Allah's creation and mercy. Many other verses of the Qur'an have similarly inspired calligraphy in all its forms, reminding us of the richness and vitality of Muslim traditions in the Arts. (Allibhai, 2003)

The world that is comprehended, felt, and then created by an artist can be analyzed from three dimensions: first the perception of the artist from the world, second his comprehension of a holistic world and the third one is the situation of human between these two fields. In deep analyzing of each artistic compilation, the way of thinking and life of the artist would be recognizable. If the work of art is balanced and meaningful, so he has a balanced perception from the world, which has a creator and everything is in order. By a disordered and disturbance compilation, different beliefs of the artist can be recognized. The Muslim artist, through his religious beliefs, comprehends the world as an in ordered complex by having a certain destiny. This balance means that by an increase in one part of the world there will be a decrease in another part or by having a color in one side there will be a balance by its opposite or its supplements. The cosmology of this balance has an arithmetic destiny to this wonderful world.

The Transcendent Unity of Religions was the title of Schuon's (1984) first book, in which he articulated the theme from a metaphysical perspective. 13 From the out- 6 Cosmology and Architecture in Pre-modern Islam set, Schuon (1984), was careful to clarify the differences among metaphysics, theology, and philosophy, in order to assert that the

doctrine of the unity of religions expresses a metaphysical reality, hence its transcendence, and not just a philosophical or theological argument. To illustrate the difference between metaphysical and theological knowledge, and indirectly to emphasize the unity of religions, Schuon uses the metaphor of light. As Akkach (2005) reviewed the Schuon's book, and conveys that, he compares metaphysical knowledge to the awareness of the "colorless essence of light and its character of pure luminosity" and theological knowledge to the assertion of light's particular colors. Although both modes overlap in their distinction between light and darkness, they differ in the level of reality they disclose.

Islamic thoughts in the theory of *wahdat al-wujud* see God as the inner reality of all beings. The oneness of the inner reality in relation to the many and different manifestations is often explained analogically by reference to natural phenomena, such as the invisible, colorless light and its visible, colorful refractions. The concept is usually traced in numerous Quranic verses, such as, "wheresoever's you turn, there is the Face of God" (2:115) so it is evident that, light is described as the God and that makes everything visible and meaningful.

According to Vaughan (1995), in *al-Tuhfa al-Mursala*, al-Hindi takes this analogy a step further. He says that Being (*wujud*) is to Beings (*mawjudat*) as light is to colors and figures. Being is the reality whereby things become conceivable just as light is the condition whereby colors and figures become perceivable. However, unlike light, he says, Being in its manifestation is ceaseless and more intense, and, therefore, only the elites are aware of its presence. The term *insan* is taken to designate humankind, according to Vaughan (1995), Ibn Arabi explains, because man is to God what the pupil is to the eye, the instrument of *seeing*. Therefore, if God is the light whereby the Eye sees, man is the instrument of "vision" (*basar*) that makes "seeing" possible.

As Vaughan (1995) explains, in the other world, it is surly right that God is the light of heavens and the earth. The ascending lights are the lights of the heart; the descending lights are those of the Throne. The lower self (the ego) is the veil between the Throne and the heart. When this veil is rent and a door opens in the heart, like springs towards like, Light rises toward light and light comes down upon light. "And this is light upon light." Each time the heart sighs for the Throne, the Throne sighs for the heart, so they come to meet... Each time a light rises up from you, a light comes down towards you, and each time a flame rises up toward you a corresponding light flame comes down towards you... If their energies are equal, they meet halfway, but when the substance of light has grown in you, then this becomes a whole in relation to what is of the same nature in heaven: then it is the substance of light in heaven, which yearns for you and is attracted to your light, and descends towards you. This is the secret of the mystical journey. (Vaughan 1995) Also about the light upon light, there is a corresponding verse in the holy Quran when it says: God is the Light of the heavens and the earth. / His light may be compared to a niche / wherein is a lamp / the lamp in a glass / the glass as it were a glittering star / kindled from a Blessed tree /an olive that is neither of the east nor of the west whose oil would almost shine forth /though no fire touches it. /Light upon light /God guides to his light whom he will. /God speaks in metaphors to me. /God has knowledge of all things. Qur'an (24:35)

Overall, in these mystical aspects from Qur'an or Sufi masters, light is known as the God. Where there is light, there will be god too, so bring light in your heart and open it to heavens, in another word, God placed within the heart the knowledge of him, and so the heart became lit by God's Light. By this light, he gave the heart eyes to see. Then God spoke in a

parable and said. Compared to a niche wherein a lamp... the lamp of the Divine Light is in the hearts of those who believe in the Oneness of God. (Vaughan 1995)

ANALYZING LIGHT AND COLOR IN ISLAMIC ARCHITECTURE

Another feature of Iranian Islamic architecture can be seen in the selection and the application and the combination of materials. Studying the examples of work demonstrate that the artists have a great knowledge regarding the natural capabilities of various materials and put his effort for their use and finally contributes something inspirational to material as well as he did to the shape. The traditional architect gives so much value to the materials. He is so meticulous for the selection and implementation of their use. He knows every constructional and structural property of the materials. He has evaluated the strengths and weaknesses of each one. He employs them in the right place and in the appropriate amount but the time that this becomes significant is when the artist is dealing with materials for and it is in this domain, unlike the modern architects, he is not interested in natural simple raw materials. The artist stripped the raw material refined the attributes and adorned them with patterns and lines until it progressed to ascending degrees of perfection step by step. In this way the quality of the raw materials, which were unpleasant, heavy, untamed, and dull, were shaped into a pleasant feature, light, delicate, tamed and alive. It Is known that in the field of Islamic thought and culture, the focus is on the fact that the reality of everything is buried. If the appearance is rough, solid, hard, heavy, gloomy, and shapeless, then the interior is the reality of the object and belongs to external forces, which are delicate, bright, transparent, light, lively and shaped. Furthermore, in this context there has always been talk that the primary matter of things is the hidden potentiality in ascending degrees towards perfection form-to- form, state-to-state, until it reached the utmost order. In this state it is more delicate and bright, and the brightest and finest of all is light. In literary and philosophical texts many stories are related to converting, transforming, and altering in the molds of proverbs, copper to gold and metal to a mirror. What is noteworthy is that Iranian Islamic architect is searching for perfection in the gold and the mirror. (Ghasemmi, 2005)

Light, color and also water are the aesthetical elements of Islamic architecture. Light is one of the distinctive aspects of Iranian architecture and an element of divine wisdom. Color is created by the refraction of light and water is the nature reflector In Islamic architecture. To describe these elements briefly, light is the God's face, that the manifestation is appeared in the mosques. Allah is the light of skies and the earth. (Al-Nour Verse of Qoran) and this light reduces the hardship and coldness of the building and stones. Manifestation of spiritual aspects of light on the physical aspects of building is the main axis of aesthetic Islamic architecture in Mysticism. In building floors or wall surfaces, shining or bright materials were applied to capture the light and reflect it such diamonds as a decorative element. Light gives a dynamic quality to the ornaments and motives also bring out the forms and designs out to the current time. Light and shadow, create some intensive interactions and gives texture to the textures. Light was the element that transferred from the wooden porous partitions and colorful glasses, to the interior area and reflects the forms and motives on the other side of the walls. (Figure 3)

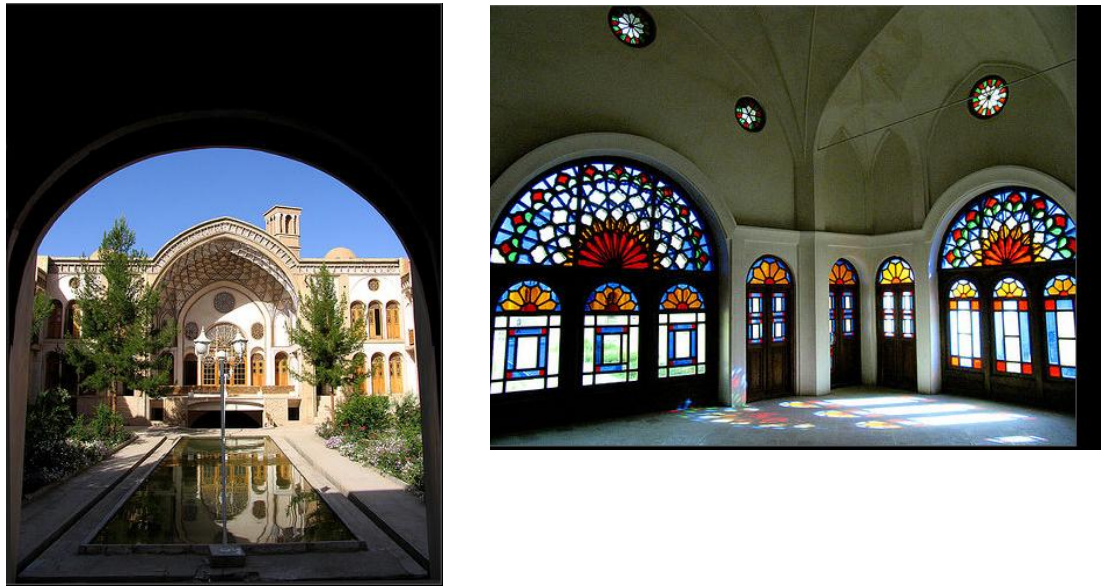


Figure 3. the presence of Color, Light and water in Iranian Traditional House, which each contain a conceptual message

Color also in Iranian Islamic architecture and mysticism has profound definitions that different aspects of that are suggested lately. Color is created from the multiplicity of light and has the essence of unity. Some Islamic scholars believe that, white is the symbol of god, (the absolute being) and the black color is the color of Ka'ba, the house of God, and the main symbol of metaphysical balance that Ka'ba is in correlation with it. Blue, turquoise color and golden, in Iranian-Islamic paintings are the luster of color among other colors. These colors are also considered in the holy Qoran for example; yellow is a symbol for happiness and comfort. White was the favorite color of the prophet. As a result of these aspects color is really considered as an important issue in Islamic architecture.

One is confronted with a variety of wonderful colors in Iranian Islamic architecture. The excessive use of this amount of color is an outstanding feature of this architecture. This colorful crest is not an additional element for enjoyment, a relisting in pleasure, nor is it an 'ornament' that we express in these days. It is a way for the creation of spatial qualities, which is demanded by the artist, as though by polishing the surface of the structure, the artist attempts to produce a mirror for reflecting the inner beauty of nature. The effect of this is so significant that one may dare to say that it is one of the fundamental bases for accomplishing the desired spatial qualities. The designer also has his own style for adding color and pursues an objective, which will be discussed later on. One of the fundamental elements in the use of color in architectural buildings in Islam is the limitation on the use of a number of colors in the sea of colors. The artist wishes not to utilize a certain group of colors and strictly limited himself to some specific colors and, in fact, he is adamant in his selection of one color in a spectrum of colors. On the other hand he likes to combine opposing colors together. Appealing to this style yields positive results. The colors get brighter and more shining, for example a strip of yellow tiles against a dark blue setting becomes a band of gold and tiny white flowers in a dark background brings to mind the twinkling of stars. Any color is emphasized by the presence of an opposing element and results in a colorful setting, although the use of colors is strictly, limited. The shining of any single color here and there brings

multiplicity to the whole and thereby displays multiplicity. This alt form shows the multiple worlds where all the various elements are inter-related and everything gains in value from the opposing element to itself. Although in this little world or colors a conflict exists between the contradictory colors, what is amazing is that a sense of confusion is not brought about. The compound of colors is that, in some way, instead of confusion it implies integrity and unity, giving intangible pleasure and vivacity to the beholder. (Figure 4)



Figure 4. Colorful tiles, shows the composition of colors in Islamic architecture of Iran

BEHAVIOR OF NATURAL LIGHT AND COLOR IN PUBLIC AND PRIVATE SPACES OF TRADITIONAL ARCHITECTURE OF IRAN

In Iran, the religious, cultural and mystical issues were in direct relation with the architecture of that era. These issues with different functions were seen separately in public or private spaces therefore the quality of architecture in these spaces was totally different. Houses as private space, and mosque and school (the traditional type of school) will be analyzed as religious spaces and the cultural issues in these spaces will be studied. Ayvazian (2005) noted that the order of structure, in which light comes as containing discovering geometry, commands subsidiary openings, which imposes a disciplined regularity of spaces whilst offering greater complex layers of perception. Architectural configurations exist by the illumination of enclosing surfaces. Skylight and prophetic lights produce a particular lighting, which comes as an integral part of the volumetric space itself. Ayvazian (2005) also mentioned that, these openings have always a direct relationship with the structure, the walls, and the volumes. The light descended by means of a vertical receptor, a link is then re-established with the whole, which finds its final symbolic significance through different perspectives and angles of incidence. In Iranian architecture, the light metaphor engenders metaphysical connotations, where the Divine is always omnipresent. Light is always a virtue of the sky, of heaven, of truth, of realization, even if brightness is sometimes hidden by shade or darkness. Light and shade are maintained for space perception, while never be in real conflict of meanings. (Ayvazian 2005) The categorization of different lighting strategies and the way they let the light in, in traditional architecture is divided into three categories: Spatial arrangement of the building, different types of openings or light deflectors or other material that were not transparent but they were helpful in bringing the light in. Each of these categories will be interpreted as following

Iran as an Islamic country has variegated mosques in different cities. These mosques, which are all articulated, are designed in a way to have special architecture toward light.

Orientation of the mosque was important from aesthetic and functional aspects. Showing the sunset and sunrise to remind the prayer time was responsibilities of day light. Using different openings and apertures around the domes of mosques or using reflective tiles inside and outside in order to increase light penetration. The porous walls in front of light created special situation that the Muslim person finds him/herself empty in front of the great God. Mosques and the way they bring the light in, is not same as other temples of religious spaces. For example, in Hindu temples, it is believe that the path of love and the statues of finding ourselves are found in the darkness. When there is no light, nothing is seen therefore, there will be nothing distracting people from themselves. In Islamic thought, Allah is the Light and all the creation is from the divine light. The way the light is seen in mosques or other Islamic religious spaces is the path which is from darkness to light, but this light is never distracting because it is the reason of life. Light and color in mosques of Iran, such as Sheikh-lotf Allah mosque, in the city of Isfahan, is a unique example that the combination of them is done articulated. (Figure 5) Different elements in this mosque are introducing the mystical definitions. These elements are found as simple ornaments at first, but there are deep concepts behind its appearance. Porous walls, reflective tiles, variegate brick works are all having different concepts also. In figures below these elements are introduced.

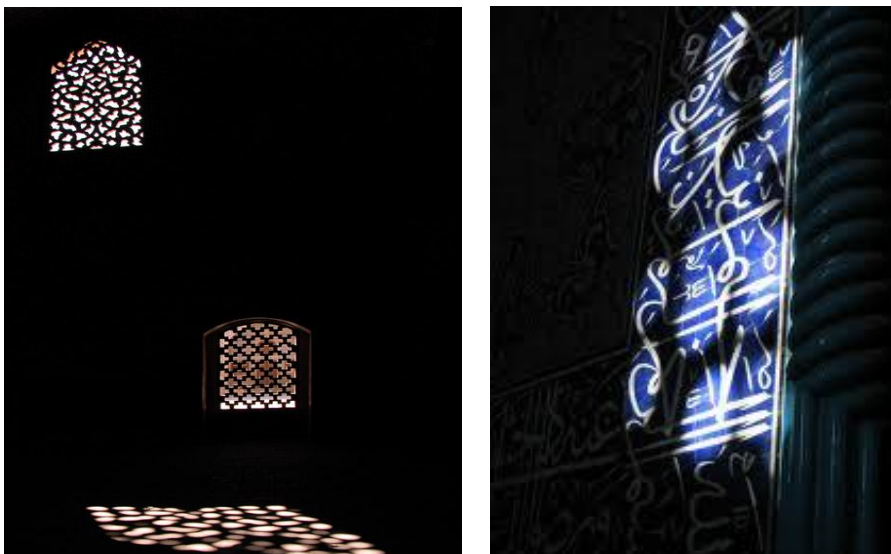


Figure 5. Shadow-light combination in Lotf-allah Mosque

THE CULTURAL CONFLICTS OF TRADITIONAL ELEMENTS IN CONTEMPORARY ARCHITECTURE

Two important objections can be raised concerning this association. The first is to accept that Iran's historical architecture is the antithesis Western architecture. Such a view promotes a simplistic view of the West as being culturally uniform and congruous. The second objection is that we are searching for our own identity by referring to phenomena that are not compatible with our present conditions and are to a large extent unknown to us. This state of affairs is itself the result of some kind of confused attitude towards architecture. As to traditional architecture, it is worth nothing that the primary difference between a traditional activity and a modern one is more in the process and method of executing out that activity than in the final product. Thus, if today we are to imitate all the patterns and forms belonging to our historical architecture, we will not succeed (as proven in practice) as the process of designing and constructing buildings is not being done the traditional.

On the other hand, there are tendencies that are opposed to the utilization of any traditional form of architecture and these try to keep pace with developments in modern architecture. These trends copy foreign styles. However, Iranian architecture, should break free from the unhealthy state of “being at the crossroads” and put an end to disputes over the choice of inspiration or whether it belongs to a particular tendency. Whether we take a certain position as our point of departure, what is important in discussing it is architecture itself. Iranian architects in the ancient Achaemenid period as well as in the recent Qajar period have demonstrated how elements from foreign architectural influences can be employed to create works that are in complete harmony with the Iranian spirit and culture, Nowadays, however, in using elements from “traditional” architecture, the resulting buildings are completely incongruous with the spirit and culture of our nation.

In contemporary architecture of Iran, returning to traditional architecture is a method to achieve the Iranian identity of architecture. Traditional architecture with the worthy cultural aspects and valuable concepts, are just introduced by ornaments and traditional elements. This imitation from traditional architecture not only does not introduce that architecture but also, deteriorated the pure definitions of it. One of the most effective methods in contemporary architecture is to use the principles of traditional architecture in contemporary construction field. Application of color and light in traditional architecture as mentioned before, was deeply combined with the culture and architecture and it cannot be separable from its texture, however in today’s architecture for example, in new built mosques light comes from different forms of windows only in order to brighten the space or a decorative element and it is not a conceptual nor mystical element to define the space. On the whole these kinds of problems are due to the absence of the thoughts of traditional architecture and the principles of application of those factors.

CONCLUSION

The place of light and color in Iranian architecture is from the combination of culture, religion and the Persian art which has been changed through the time. Application of natural elements in Iranian architecture has been mostly a metaphoric method. Light and the refracted color from light in traditional architecture were in order to create index spaces and to give special concepts to the functionality of the place. In religious buildings such as mosques, light and color besides give a spiritual and metaphysical quality to the space. As mentioned before in traditional architecture and in Islamic culture, light is a symbol of God and divine light. The selective application of shadow and light and indirect light in religious spaces is effective in giving mystical quality to the space. In other buildings like dwelling spaces, color not only had the ornamental functionality, also other elements were used instead of color to make the space colorful. Utilizing broken mirrors in space reflects the color of the environment into the interior area. Light with different qualities affected on the psychological and social place of human in life.

The wide range of application of light, whether functionally, physically and spiritually, has been wisely done in Iranian traditional architecture. However in contemporary architecture of Iran blind imitations from appearance of traditional architecture which mostly includes the personal taste of architect. (Talischi & Ansari, 2000) Changing this situation is only possible by transferring the data and the definitions of Islamic motives and the values of traditional concepts to the next generation because wise application of natural elements especially light and color in architecture increase the quality of dwelling spaces and the presence of meanings in space, in the way we had in traditional architecture.

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