

Architecture as a Physical, Psychological & Spiritual Science *A Case Study on Indo-Aryan Architecture*

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Abstract

Keywords:

Architect; culture;
vernacular
architecture; health-
giving architecture;
Indo-Aryan
Dwellings

Scholars believe that traditional dwellings propose elements of good-design by considering human system as a whole, composed of physical, emotional, mental and spiritual aspects and one of the means of achieving such holistic approach was their thorough knowledge of human bodies and chakras besides physical and technological side of architecture. However, as science advanced and the material views became more popular, holistic views towards architecture got abandoned, and replaced with specialized sciences dealing with physical aspects of living. Although many scholars such as Christopher Oliver, Christopher Day or Cooper Marcus, tried to emphasize on the importance of psychological aspects of human system, using traditional buildings as successful examples of architecture, the spiritual side of architecture remained unrevealed. This article, studying the art and architecture of Indo-Aryan societies using case studies as a method of data collection, aims at introducing architecture as a combination of physical, psychological and spiritual sciences to help create buildings that not only provide physical comfort, but also nurture the soul. The author believes that one considering the spiritual side of human life, especially the energy body and its chakras, is one of the reasons why traditional Indo-Aryan art and architecture is considered as one of the examples of good-design.

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of Merdeka Malang, Indonesia.

Article History	Received	:	Nov 8, 2022
	Accepted	:	Jan 16, 2023
	Published	:	Jan 16, 2023



1. Introduction

In '1994 DOORS 2 Conference' in Amsterdam Christopher Alexander stated that the biggest problem of architecture in the 2nd half of the 20th century is the high dependence and connection of the inhabitants to the physical world while missing the emotional sense and the sense of possession or belonging to their places and dwellings. Therefore, houses are built only in the physical level disregarding the emotional aspects of living. Since the architects of the modern era are not equipped with the theoretical sciences of the past suggested by philosophers, he introduces a kind of client-based architecture in which the dwellers have a close impact on the design process making the construction evolving

organically until the last step which used to be a part of the primitive architecture (Alexander, 1995). In fact the problem of architecture today, is not only the ignorance of emotional factors, but also the lack of knowledge about the psychological and spiritual levels of the human living as well.

Regardless of the structural and technological advancements and the impact of modern theories in the fields of superficial lighting, air-conditioning, materials and other mechanical facilities leading to human physical comfort, the contemporary architecture has been subject to a wide range of criticism and debates recently for being harmful to human health. The disregarding of cultural values and traditional beliefs which were significant aspects of architecture until the end of the pre-industrial era, through the teachings of the international style and standardization of architectural design, which has widely destructed the face of human built space specially in the developing counties, is another loss of our architecture today (Salingaros, 1995, 2007; Salingaros & Mehaffy, 2006).

Even the failure of the modern prototypes in providing the physical shelter due to the extensive use of synthetic materials causing the electromagnetic confusion, has caused many scholars to return to traditional architecture as means of creating better spaces which nourishes both body and soul. Beside the scholars' ideas, many dwellers also agree with the statement that traditional dwellings evoke better feelings compared to the modern prototypes. Thus, although the contemporary system of architectural education is highly dependent on the modern theories and technological issues, the traditional built space is still more favourable among the members of the society (Day & Rose, 2004).

In fact, the traditional architecture which consists of primitive vernacular dwellings as well as the pre-industrial built space is regarded as being soul nourishing, life giving and more compatible with human needs by a number of scholars, whereas the means to recreate such space is not agreed by all (Alexander, 1979). According to some scholars the same traditional construction along with its unique lifestyle has to be recreated for the modern man which ignores the technological achievements of today, however we believe that the architectural knowledge of the traditional era, especially their understandings of the laws of nature and its analogy to human body, should be adapted with the technology and lifestyle of modern societies. Among the traditional sciences, leading to a proper architectural design is the knowledge of the human bodies and the connection of built space to human health which was highly regarded by the traditional societies and is required for the architects of the day (Alexander, 1995; Day & Rose, 2004; Salingaros, 1995).

2. Stages of Architectural Development

The history of architecture begins with structures which were served as a shelter in its primary usage and as the first manifestations of social groups. Since in primitive societies knowledge was commonly shared by all the people of the community, primitive houses can be viewed as the sum of the available technical knowledge in the society as well as its cultural values. Furthermore, in primitive cultures house was generally built by the inhabitants themselves who have a better understanding of their needs under the supervision of a spiritual man who would impel the use of certain forms, symbols, patterns and rituals during construction. "This explains the close relation between the forms and the culture in which they are embedded, and also the fact that some of these forms persist for very long periods of time." (Rapaport, 1969).

In fact, there are two major distinctive approaches to architectural development through history; the chronic evolutionary approach which studies the development of built space in accordance to time and history and as a reaction to environmental issues, and the cultural approach which accounts religion and beliefs prior to environment.

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The Chronic Evolutionary Approach

Although some scholars believe that the forms and the geometric patterns used by primitive people in constructing their houses have symbolic and metaphysical significance, others who follow a chronic approach to the history of architecture, suggest that the primitive dwellings were simply inspired by forms and patterns of nature. Therefore, the surrounding environment and the available materials might have imposed certain shapes and patterns in the construction of the dwellings. Since the evidence from the archeological excavations prove that the first dwellings built between 9000 B.C. and 7000 B.C. were semi-circular similar to the shape of the caves and were used temporary by the occupants who still used to be partially cave dwellers, the evolutionary approach towards the architectural construction may seem appropriate (Gardiner, 1975). Following the evolutionary stages of the human settlement, Norbert Schoenauer believes that the 6th stage of the socioeconomic development categorization is the rise of the permanent settlements which later became the foundation of the urban life. The socioeconomic studies of the pre-urban dwellings reveal that dwellings with circular format are primordial in comparison to rectangular shape shelters which might further prove the idea of nature as the inspiration behind the creation of primitive structures (Schoenauer, 2000). However after the transition of the circular dwellings into rectangular shaped houses, a transition should have occurred in the forms and patterns of dwelling construction which draws more attention to the interpretations of the world of nature by the human mind while giving rise to the concepts of mandala and sacred geometry. Therefore, following the evolutionary theory in this era, nature was still considered important whereas through the observation and interpretation of its rules and principles and their application in architecture.

In fact, the advent of rectangular-shaped dwellings marks a significant stage in the evolution of man-made structures revealing a structural consciousness and designing methods accompanied by a wider understanding of the dwelling components and spatial composition. The knowledge of scaling, geometry, materials and construction achieved through the previous experiences which differentiated the role of the inhabitants from the builder and the master builder who was supposed to replace the role of the spirit man. Symbolism and color in this stage were commonly used in order to denote the values of the previous generations and as a continuance to the prior findings. (Gardiner, 1975) Traditional master builder who in the modern era is called architect was in fact ordered to design dwellings based on specific rules and principles derived from the natural structures and the universal order as well as the cultural values and environmental issues by the society through "the collaboration of many people over many generations as well as the collaboration between makers and users of buildings and other artifacts, which is what is meant by the term traditional." (Rapaport, 1969). Therefore the patterns used to be in practice as long as the tradition was considered a vital aspect of the social life; which is not significant to the modern man of today.

Followers of the chronic approach mostly suggest a set of characteristics to the ancient houses which simply have changed in time through the collaborations of different civilizations that has led the primitive man to improve his dwellings by gaining knowledge from other nations and adopting it to his culture (Gardiner, 1975). The third stage in this hierarchy of evolution is the advent of technical knowledge and complexity in terms of architecture which had a great impact on the face of the built space in comparison to the previous achievements. Tradition as the regulating factor was disregarded by the architects and new theories in the field of architecture and housing incorporated to the new technological advances introduced by the scholars. The complexity of architectural structures and housing projects needed a group of architects and specialists rather than local craftsmen and master builders for the construction process. However, rational,

mechanistic and economical approaches to housing besides the standardization of spaces in the modern stage has ended in the negligence of cultural values and individual preferences to the extent that some scholars think that traditional dwellings were more compatible with human nature (Salingaros & Mehaffy, 2006).

The Cultural Approach

Besides such chronic approach, which denotes the physical solutions through time to deal with the proper construction of a shelter, Rapoport suggests a historical approach to culture and its dominant factor as the essential force in determining the forms and shapes of the buildings. Thus, he believes that environment is not the most inspiring factor in dwelling architecture since ancient dwellings are not built in their most efficient configuration rather based on the symbolic values and the belief system of every culture. Among all the researches done on the history of architecture which suggest one force as the dominant factor in determining the format of dwellings through time including climate and the need for a shelter, material and technology, site, defense, economics and religion, he believes the equilibrium of all forces determine the configuration of dwellings in which religion and belief play a more significant role (Rapoport, 1969). Redfield also stresses the importance of moral order in comparison to technical one in the study of traditional architecture, questioning the materialistic approaches of Gordon Childe and scholars of the kind. Max Sorre also signifies the importance of cultural, spiritual, material and social aspects by using the French word 'genre de vie' to signify the sum of all forces. He believes that dwellings are the physical manifestations of the 'genre de vie' which denotes their symbolic essence. Thus, above all, the traditional dwelling would be a symbolic impression of the cosmos which emphasizes on the spiritual aspect of human being distinguishing him from other animals (Rapoport, 1969; Redfield, 1953).

The reason behind this cosmology might be the struggle of the imperfect man to create perfect things in order to help him progress. According to Carl G. Jung, symbols are the creations of man to give meaning to things to stand beyond the limitations of logic and intellect which has made the traditional dwellings distinctive from the modern functional prototypes (Gardiner, 1975). (Gardiner, 1975) In Schoenauer view, such change in the symbolic essence of dwellings from the ancient times occurred after the collapse of the Roman Empire through which the traditional inward-looking dwellings were replaced by the outward-looking houses of the new era following the industrial revolution in which profound changes took place in the housing craft; houses divided along socioeconomic lines while polarized with single family low-density housing and multifamily high-density apartments at two extremes, where the physical efficiency was served as the most important factor (Schoenauer, 2000).

In fact, both approaches to the history of architectural spaces suggest three substantial stages in the evolution of dwelling construction from the ancient times till the day. Therefore, our current architecture is the consequence of a double change in the essence of built environment from the primitive dwellings to the preindustrial vernacular architecture which refers to the traditional dwellings and as the last stage to the high-style and modern construction which is commonly built by a group of designers and specialists. Although tradition was the most important factor in determining the principles of dwelling construction in the first two stages, originality plays a more significant role in the modern era. The reason of such fundamental change from the traditionalism to the modernism can be the loss of a universal shared belief system and values by the people of the society while putting more emphasis on freedom and originality which is complete contrast with the concept of tradition as a regulator (Rapoport, 1969). Neglecting the beliefs and findings of generations dealing with life and nature altogether, which has been preserved via culture, and taking a secular view, instead of updating and upgrading the beliefs by studying and

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keeping the essence of the practices and removing the superstitions, lead to creation of spaces that are physically comfortable but not holistic.

In order to approach the topic of built space with more details and understand the reason behind the application of certain rules and systems of beliefs such as Vastu Shastra as a guidebook for Indo-Aryan architecture, one must study the human system thoroughly. The knowledge of human bodies and chakras has been one of the most important aspects of traditional societies especially the Indo-Aryans.

Architecture and Human Bodies

As stated, the purpose of architecture in traditional societies apart from providing a physical shelter was to create a bounded sacred place out of unbounded profane space with which the individuals were introduced to the society (Kent, 1993).

Basically, the idea of creating a sacred place persuaded the ancient cultures to find ways of making their dwelling places as the manifestations of the sacred realm. Since the sacred place of the dwellings were distinctive from the profane reality of the outside world, the role of the entrance gate in this case, was crucial as the threshold between these two realms of sacred and profane (Eliade, 1959). In fact profane was called to everything usual while sacred referred to places with sentimental values for the members of the society.

Based on the theories of Yi Fu Tuan one way of transforming the profane space into the sacred place is through creating an experience in the built environment which could be either physical or psychological that would arouse a sense of belonging. The physical experience may achieve through the stimulation of human senses by the architectural space and through the use of materials, structures and spatial organizations while the psychological experience could be gained by the proper use of color, light and certain geometrical patterns and sacred symbols. Thus, any experience towards the built environment will generate a specific human state. Based on the state in which the human is put through the architecture, his health might be promoted or disturbed. In this way the built space is crucial in determining the physical and psychological conditions of any individual or the whole society which will denote the role of architecture towards the human health.

Since esoteric traditional teachings of architecture, regard human being as not merely the composition of his physical form rather a manifestation of four distinctive bodies of physical, astral, mental and causal (Figure 1), the knowledge of such bodies is substantial in understanding the principles of traditional architecture. Therefore, it is believed that the vast knowledge of traditional architects towards the human bodies and their relationship to the architectural forms is the root cause of superiority of the traditional built space in comparison to the modern prototypes (Silverman, 2007).

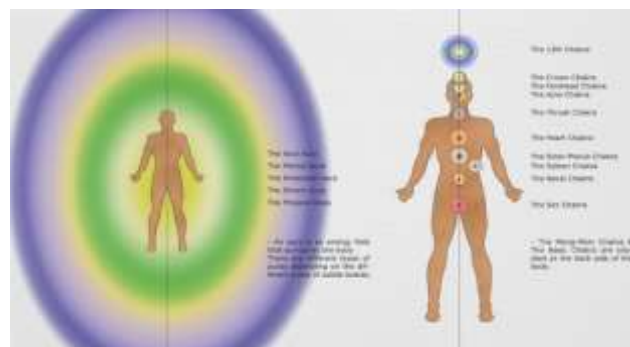


Figure 1. The human auras and chakras (pranaworld.net/pranahome)

In fact, the discoveries of quantum physics and alternative medicine today in introducing the different phases of human bodies and their influences on each other can highlight the importance of having such knowledge in traditional societies. Based on the recent findings, the human body is composed of four distinctive subtle planes which are interrelated and are capable of influencing the outer environment as well as being affected by it (Day & Rose, 2004).

The first plane which is known to us is the physical body. The physical body is composed of two levels called the visible physical body and the invisible energy body, the etheric double or the aura. While the visible physical body is the composition of all the physical organs, the aura is made of the subtle form of matter known as ether which controls the physical organs through energy power centers called chakras in Indian terminology. Through the invention of different cameras such as the Kirilian camera and tobiscope, the etheric double can be photographed and studied in scientific societies of today. (Figure 2) (Powell, 1882; Sui, 2004).

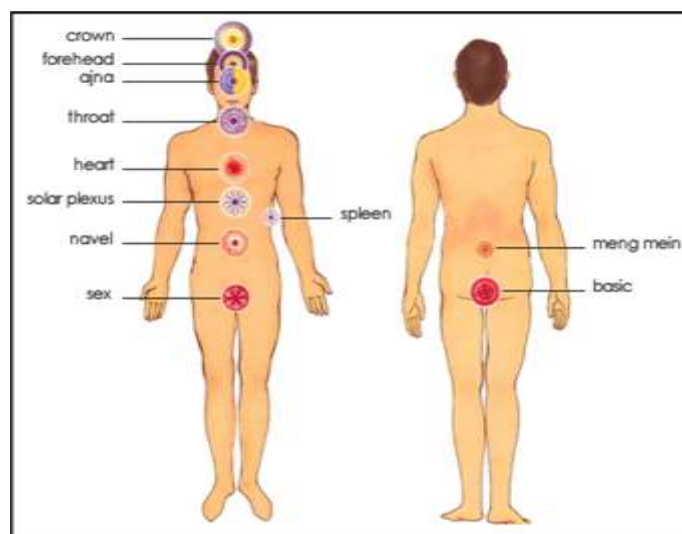


Figure 2. The eleven major energy centres of the body (Master Choa Kok Sui, 2006)

The next plane is the Astral body which is the sum of all the emotional experiences of a person from the very first childhood until the day. The architectural built space, through its geometries, colors, qualities and aesthetics may affect the emotional state of the users and at the same time affect his physical plane which is associated with physical health (Powell, 1927).

The mental plane in this case would be the sum of all the thoughts and mental experiences of human which is connected to both physical and emotional bodies. Therefore, any thought is accompanied with a feeling in everyday life. Symbols, geometries and concepts of design in every piece of architecture will have direct influences in the mental body and as a matter of interrelation, in the emotional and physical states of a person. Since the mental issues are superior in comparison to the physical and emotional aspects of architectural design, the role of symbols and geometries was highly substantial for the traditional master builder in constructing any property (Hodson, 2015).

The fourth plane of the human system is the causal body which is composed of the subtlest matter and is considered higher than the definition of the personality in psychological terminology. According to esoteric teachings this body remains in different lifetimes or incarnations of the soul and thus carries the dimension of identity. In comparison to the mental plane, the causal body is the house of abstract concepts and ideas

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whereas the mental body is the center of concrete thinking. These characters of the causal plane mark it as the spiritual aspect of the human being which was highly considered in primitive times through the guidance of the spirit man. It is believed that when the traditional architect was designing the future architectural masterpiece, he was using the causal plane in his imagination which would be later constructed in the physical world. Therefore, his imagination was considered distinctive from the imagination of an ordinary person who does not have the proper knowledge of creation; and was equal to reality (Powell, 2010).

According to Rumi, whatever the architect is imagining is completely different from the imagination of a regular person. The architect thinks about the building in its ultimate manner. Its width is unlimited, its height is unlimited and its depth is unlimited. Therefore, the imagination of the architect is not the literal meaning of imagination since it is equal to reality and is far more abstract than its worldly order .

This fact indicates that the architect is imagining an abstract idea related to his causal or divine plane not merely based on the mental capacities and that used to make the architect or the master builder differentiated from the ordinary craftsmen who were responsible for the construction phase.

In fact, the seven years of apprenticeship under the supervision of a priest and a master craftsman was there to equip the future architect with the knowledge of all human bodies so that the architectural spaces made by him would be compatible with all his needs which now make us believe that the knowledge of human bodies was known to the preindustrial architects and is needed today in order to recreate such architectural masterpieces.

The art and architecture of Indo-Aryans is rooted in the concept of human bodies and the chakras as energy centers that interact with the environment, therefore having this knowledge was a crucial part of their architecture.

Case Study on The Principles of Indo-Aryan Architecture

Art and architecture of Aryans were basically manifestations of their religion and beliefs and is therefore composed of symbolic ornaments and geometrical interpretations of the universe and its order.

“The ancient architectural system of Sthapatya Veda prescribes detailed principles of construction of homes and cities. One of the main principles of Sthapatya Veda is that cities be laid out on an exact north-south grid, with all houses facing due east. Another is that the buildings be oriented to the east with a slope to the east and any body of water on the east. Most of the cities of the Indus Valley followed these principles exactly.” (Pruthi, 2004).

Based on historical records, some directions were considered auspicious as well as some geometrical patterns and symbols which believed to bring luck, joy and prosperity while some certain directions and patterns were inauspicious and believed to bring misfortune and misery. Aryan architectural design is in fact shaped due to certain rules, principles and patterns which used to be carefully followed by the master builders in constructing any property. Such rules and principles were practiced to align the microcosm or the human dwelling, to the cosmos as its macrocosm through the application of the laws of nature. (Pruthi, 2004) Master builder in fact as the person, who has perceived the universal order, was the creator of the dwellings totally based on the laws and sacred symbols, to ascent the minds of the inhabitants in the way that they could perceive the transcendental realms as well (Snodgrass, 1985).

“Man seeks to discern order in the universe. Through art, science and religion he searches for meaningful patterns, for a cohesive order underlying the ever-changing current of forms. The order man seeks and but dimly discerns is seen with absolute clarity by the awakened ones. They perceive the forms of the world in their instantaneous and perfect harmony,” and introduce them to the public through architecture (Snodgrass, 1985).

The Aryan architecture is basically composed of three significant concepts of place, time and act. Creating a proper Place to live in, every architect had to follow specific rules and patterns in relation to 3 main categories of:

1. “Plan design” which is symbolic in origin and is designed as a complex mandala,
2. “Structure” that is mostly based on the local environment and available materials, and
3. “Ornamentation” in which the sacred figures, symbols and scripts were followed in a way that it provides a proper shelter and at the same time, assigns a sacred identity to the dwellings.

3. Plan and Concept

The first geometrical pattern applied as the floor plan is usually a mandala from which the rest of the concepts and patterns are originated. Thus, every construction has its own mandala as a 2D plan which later through the construction process transforms to a 3D volume.

Mandala is an Indo-Aryan term meaning ‘a container essence,’ which is composed of a set of circles and squares, since circle in Aryan culture was a symbol of perfection and completeness associated with the sacred realm and square was the symbol of the material world. Thus, in every mandala the physical, material world of the inhabitants is connected to the sacred and transcendental realm of the divine. It also means an assembly, which represents the growth. In this case mandala is a means to perfection through the use of symbolic geometrical patterns, following the orders of the universe to shift the human awareness from the profane to the sacred. (Snodgrass, 1985) Therefore mandala is a geometric design with the aim of symbolizing the universe, used from ancient times, which has even been applied in the ornaments of domes in traditional Iranian architecture. It is believed that the concept of mandalas is even older than the history itself, and is originated from the sacred hymns “whose sacred sounds contained the genetic patterns of beings and things,” which makes the mandala as the model of the world (Goel, 2000; Snodgrass, 1985). (Goel, 2000)

“The mandala produces enlightenment and, in this sense, gives birth to the enlightened ones.” (Snodgrass, 1985).

Creation of mandala starts from a central dot or the bindu in Indian terminology which signifies the first seed. From the bindu as a central point or the place of the vertical axis which was believed to be the axis of connecting human to God, the first circle is created signifying the dynamic consciousness. The outlying square in this case is a symbol of the physical world which was depicted with one gate in each of the four directions (Goel, 2000). From the mandala, the concept of concentric zones is derived which defines the central point as the residence of the deity while the two outer squares are the residence areas of the human beings (Kumar, 2005). The model of central courtyard which was followed in the traditional dwelling prototypes of Iran and India is in fact based on the concept of mandala and its concentric squares. (Figures 3&4)

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Figure 3. The concept of Concentric Squares in Vastu Purusha Mandala (ssubbanna.sulekha.com)

Figure 4. The concept of Concentric Squares in Abbasi House, Kashan (Fazeli, 2010)

Vastu Purusha mandala is the proper mandala for dwelling construction which not only suggests the directions, units of scales and geometries of the plan, but also the location of every living area and its accessibilities to other parts of the plan in Vedic texts. Thus, the complete design concept of the plan and its characteristics in Indo-Aryan culture can be identified through the study of the Vastu Purusha mandala (Silverman, 2007).



Figure 5. The Vastu Purusha Mandala (schoolofsacredplace.com)

Figure 6. Decorations of the roof of Abbasi House, Kashan representing a mandala (Fazeli, 2010)

The patterns of mandalas applied in the ancient architecture of Aryans of Persia, known as the Parsis in building their sacred architecture, palaces and dwellings continued to be practiced by the architects even after Islam which is evident in the architectural plans of mosques, gardens and dwellings. The pattern of “four-eivan” originally was used in the Pasargad palace as a part of Parsi style of architecture which later utilized in the plan of the great mosque of Isfahan in Razi style after which the four-eivan mosques became a common model of traditional Iranian mosque design. The patterns of four-gardens, four-arches and central courtyard which are significant parts of the architecture of Islamic period of Iran are in fact originated from the Parsi style or the Aryan architecture (Pirnia, 2004).

Structure and Body

Although the structural design in Aryan architecture is highly dependent on the local materials and climatic features of the region, the symbolic beliefs and cosmological values were kept intact - the change in methods of constructions and materials has not necessarily ended in the change of the shapes, concepts and patterns of dwellings, and in fact ‘innovation in materials has not affected form.’ (Rapaport, 1969).

The Indo Aryan constructions were both plain-roofed using wood as the basic construction material, and dome-shaped. The vaulted roofs were often used to cover the roof of the main halls, hashti, basements, etc. Bedrooms usually had plain roofs. The columns were constructed by pieces of stones while the major used material in the walls was clay. (Pirnia, 2004) The materials used for the construction were mainly wood, stone and clay, and each type of material based on its quality was belonged to a certain social rank (Bhattacharya, 1974)) (Figures 7-10).



Figure 7. The vaulted roof of Swaminarayan Akshardham, New Delhi (flickr.com)

Figure 8. Decorations of the roof of Tabatabayiha House, Kashan, Iran (Fazeli, 2010)



Figure 9. The arch structure of Taj Mahal, India (flickr.com)

Figure 10. The arch structure of Abbasi House, Kashan, Iran (Fazeli, 2010)

In fact, the materials and construction methods has always been developed through time from the ancient prototypes, but the rules and principles of dwelling construction was preserved and applied in the same way until the modernist era in Iran which completely neglected the traditional achievements.

Ornamentation and Details

The basic idea behind the wide application of decorations and ornaments in traditional buildings is rooted in the significance of symbolism in ancient cultures. Such symbols were spiritual in origin and mostly derived from natural phenomena, astrological concepts or mythological stories (Bhattacharya, 1974).

“In the same way that ordinary language reflects the partial knowledge attained through reason and sense, the language of symbolism expresses the knowledge acquired through the intellect, which is gnosis. Symbols themselves are theophanies of the absolute in the relative. Symbolic forms, which are sensible aspects of the metaphysical reality of

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things, exist whether or not man is aware of them.” (Ardalan & Laleh, 1971) In fact, ‘man does not create symbols, he is transformed by them.’ (Nasr, 2003).

Basically, symbols were used to provide the conceptual tools to help the man’s mind to journey between the realms of human and the divine which could let him experience the different states of being and evolution. Thus, symbols were the connecting pathways between the human consciousness and the divine, being rooted in religion and spirituality (Akkach, 2012). The concept of creating symbols was derived from the idea that what exists in higher realms is reflected in that which is lower and therefore the physical world is a reflection of the divine realm (Ardalan & Laleh, 1971). Rituals, as the manifestations of myth and religious beliefs are in fact connected to the application of decoration and symbolic ornaments as well, since the ornaments were mostly applied in parts of the buildings which were more culturally important (Bhattacharya, 1974). That is why the main entrance door is always full of decoration while the external walls are commonly left plain in Iranian culture.

Furthermore, the decoration of buildings was determined mostly due to their function which used to differentiate the house construction from a mosque or a temple, since every symbolic figure or geometrical pattern was believed to generate certain quality which might be appropriate for one function but not for another (Bhattacharya, 1974; Oliver, 1997).

One of the most common symbolic figures used in both house and temple was swastika in Aryan culture which continued to survive even after Islam. In fact, the swastika symbol has been used in the construction of many Iranian mosques as an auspicious symbol. However, the Indo-Aryan mantras like OM or figures of deities which were abandoned by Islamic teachings were replaced by Islamic calligraphy in traditional dwellings of Iran while the mythological scenes and paintings were still used in the interior design of the private houses and public buildings and as patterns on decorative tiles, but not in the decoration of Islamic mosques (Ayatollahi & Haghshenas, 2003) (Figure 11&12)



Figure 11. Pattern of Swastika in decorative tiles of Friday Mosque of Yazd, Iran (Fazeli, 2011)

Figure 12. Pattern of Swastika on entrance gate of a Hindu temple in Delhi, India (flickr.com)

The patterns of chakras have been also used widely by Aryans in decorating houses and temples. This pattern is usually used in decorating the ceilings. While in Indian tradition it is depicted as a painting on the ceiling, in Iranian culture it has given birth to elaborate decorations of the vaulted roofs which are sometimes structural as well. (Figures 13&14)



Figure 13. Pattern of Chakra on the ceiling of Sri Mariamman Hindu Temple, Singapore (worldisround.com)

Figure 14. Ceiling of main hall in Boroujerdi house, Kashan, which symbolizes the throat chakra (Fazeli, 2010)

Lotus Flower, called “nilūfar-ābi” In Persian language, is another auspicious symbol widely used by the Aryans in decorations. Lotus is one of the auspicious patterns, usually carried by Hindu gods to remind the devotees of the importance of higher consciousness and God. “Brahma is often shown with four faces which represent the four aspects of human personality, and as seated on a lotus, which is the symbol for blossoming of higher consciousness from the mud of ignorance.” (Fontana, 2003) Lotus flower is the symbol of higher consciousness. Based on Sui, (2004) studies on Indian Mystics, lotus flower is the symbol of activated crown chakra which refers to highly spiritually developed people. (Figures 15-18)



Figure 15. Pattern of lotus flower on the ceiling of Sri Vadapathira Kaliyamman Temple, Singapore (flickr.com)

Figure 16. Symbol of lotus flower on a Hindu temple (ancient-symbols.com)



Figures 17&18. The symbol of lotus flower in Persepolis, Shiraz, Iran (images.travelpod.com)

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By the abandonment of humane figures, geometrical shapes and symbols became important parts of decoration in Islamic architecture of Iran which was mostly achieved through certain arrangements of building materials or through the application of decorative tiles or stucco carvings. The proper use of colour and light is another significant aspect of Persian architecture which is often used in direct harmony with selected symbols to increase their influences on the users (Pirnia, 2004). In fact Aryans were totally aware of the natural and psychological qualities of each colour and they commonly used them purposefully. As an example, it is said that king of Iran, Khosrow Anishirvan used to wear reddish shade of yellow colour clothes while giving private audiences, because yellow makes objects look farther away than their true size. That's why once a Mazdaki who wanted to murder the king, failed in his attempt (Ayatollahi & Haghshenas, 2003).

“In Persian decoration the most striking qualities are the harmony of blended colour, broken up into minute patterns... and the preference of flowing lines and floral ornament to the geometric puzzles of Arabic design.” (Hamlin, 1902) (Figures 19-22)



Figures 19&20. Details and ornaments of the Tabatabayi House, Kashan, Iran (Fazeli, 2010)

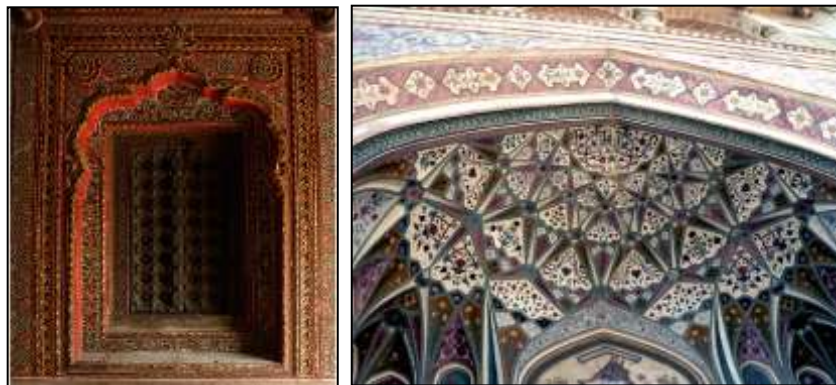


Figure 21. Window niche decorations in Mahansar, Shekhavati region of Rajasthan, India; Shekhavati region is famous for its Indo-Aryan paintings full of mythological themes (flickr.com)

Figure 22. The ceiling of an alcove in the royal apartments in Amber Fort, Jaipur, India (flickr.com)

In fact, the Aryan architecture is distinctive due to its simple structure which is often full of surface decorations. (Taus-Bolstad, 2004) In some cases the decoration is part of the structure itself rather than being a mere façade surface which denotes the significance of decorative elements in the architecture of Aryan civilization (Pirnia, 2004).

4. Conclusion

As evident from the case studies, Indo-Aryan art and architecture is derived from a thorough knowledge of human bodies and the influences of forms, colors and directions of human system. The forms and elements with destructive effects have been considered inauspicious while the colors, directions, forms and symbolism with positive effects have been regarded as auspicious. These rules and guidelines were carefully applied in the construction of dwellings to make sure the house created is physically comfortable but also promotes health in all aspects, including psychological and spiritual levels.

Studying examples of Indo-Aryan architecture and their important elements of design, this paper has tried to identify and introduce psychological and spiritual aspects of architecture, that can lead to creation of buildings that not only provide physical comfort, but also transcend human mind and nourish the soul.

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