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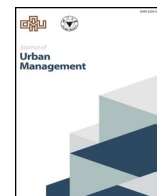
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Learning from tradition: The role of environment perception layers in space making- the case of the Persian Garden



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ABSTRACT

Extensive geographical and temporal uses of a built environment with a unique characteristic and spatial pattern indicates timelessness qualities of the space. The organic qualities, which originated from within us and differentiated by inspiration from specific local ontology, have been perceived by different people in different periods of time. In order to identify the effectiveness of these environments, this paper studies and analyzes the Persian garden, which was made for recreation, was designed to fully engage the people, and respond to their spatial needs for the relaxation. This paper analyzed the Persian garden with local epistemological science and ancient literature to probe human understanding of space and to provide a model of the multi-layer perception of the environment, which helps us to understand the reason of why visitors perceive the environment appealing and to make effective use of these qualities in creating today spaces.

1. Introduction

Persia, ancient Iran, located in southwestern Asia is home to one of the oldest world's civilization beginning in the fourth millennium BCE. In Persia, the history of gardening dates back to the early Achaemenid civilization (from 559 to 330 B.C.). The best and oldest example is Pasargadae dating from 550 BC and was made in an oasis ringed by hills. There was a rectangular network of canals which form quadripartite layout for plotting garden, palaces, and pavilions. The Persian garden flourished during the Islamic period, appeared throughout the Iranian plateau with a different layout from other lands (Conan, 2008; Ruggles, 2000). The layout was used later in other countries (like Mongolia) that were influenced by the Persian culture—through cultural interactions and conquests—while in combination with their own culture and traditions forming further gardening layouts (Ruggles, 2000). These gardens have diverse forms according to geographical conditions and their building purpose; however, their principles and structure are influenced by an identical thought.

Extensive use of gardens and fondness to use this layout is unique and is not solely applied to the formation of open areas (Ruggles, 2000). The presence of the garden, symbolically, is also observable in Persian carpets, illustrations, poems, and music; in other words, where a Persian work of art was created, we see the trace of the garden (Beheshti, 2009b). The garden represents the people's knowledge and identity of the land (Beheshti, 2009a). This knowledge can be understood and expressed through the cultural epistemology from which the garden, like other structures, has emerged (Yazdani, 2015). The unique status of the garden is to some extent the result of its application in architectural contexts as well. In all traditional Persian developments, the garden in the form of courtyards has been considered as the main part and heart of buildings that all other spaces arranged around it. The garden imposes its order and geometry over the building. Traditional structures like *madrasas* (schools), *caravanserais* (traditional inns) and houses are composed of closed spaces that are built around the central courtyard. The courtyard, having been defined by the house itself and

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Table 1
Different approaches to the Persian garden.

Approaches to the Persian garden	Considered Topic		Human Relation to the garden	References
The garden as an archetype	Geometry	The spatial structure of Charbagh, pavilion position at the center of axis, symmetry and all other structural features benefited from pure geometry.	Identification with Garden	(Jeyhani & Omrani, 2007)
The garden as a symbol of "Jannah"(paradise)	Meaning	Providing a profound conception of the Garden of Eden ("Jannah"(paradise)) lost by the expelled and fallen man of the earth with the help of the garden, which is a symbolic paradise	The garden is an eternal and independent concept	(Ardalan and Bakhtiar, 1973)
The garden as a pleasant microclimate in a harsh desert	Physical Environment	Using elements such as water, trees and creating a pleasant environment in the desert context, which has created a multi-functional and attractive environment	A responsive environment to the human needs	(El-Deen, 1994); (Ramyar, 2012)

by high walls, is used primarily as an extension of the living quarters (Ardalan & Bakhtiar, 1973). The names of special rooms such as *panj-dar*¹ and *se-dari*¹ are based on the number of the doors opening to the yard, which obviously expresses the fact that the courtyard is the spatial reference (Alemi, 2007).

Several studies have been carried out with different attitudes towards this style beyond horticultural and agricultural applications of the garden, that could be categorized into three distinct approaches: the garden as an archetype, the garden as a symbol of "Jannah" (paradise), and the garden as a pleasant microclimate in the harsh desert. In the table below (Table 1) these three approaches are presented according to the human relationship with the garden. This versatility of looking at this space reflects the varied effects that this environment has placed on the viewer and, of course, reflects the multidimensional and multi-layered nature of the garden.

The majority of the existing research interprets the garden as a historic subject made by humans to show their image of paradise (Yazdani & Lozanovska, 2016). The foci of these texts are usually one dimensional and eternal perceptions of environments. This research, however, does not want to focus on eternal stimulus of builders or developers but wants to discuss how people connect to the space and how special organization makes it appealing for different users. The garden as a built environment has traces of its builders and their vision about himself (and the users) and a perfect space. Discerning their influence on humans leads us to discover the qualities of such spaces. Epistemological foundations from the culture that the garden emerged from can be very helpful in discovering the latent layers of this built environment (which has created its quality). Considering the people's knowledge and worldview in planning an environment could help us in doing an integrated comprehensive survey on the garden and its specific qualities. The aim of this borrowing is achieving a new kind of knowledge to develop a layered approach for analyzing the garden as a place created by the humans with their limited ability to understand the world.

In the following, to investigate this way of imagination and creation of space, one of the prominent remaining Persian Gardens, *Fin* Garden is introduced. This introduction helps us to have a detailed view of the Persian Gardens. This garden is considered very much in different historical periods and because of its shape (as its shape, remained with very little changes, is very close to an ideal Persian Garden) is chosen for our study.

2. *Fin* Garden (*Bagh-e Fin*): the case for investigation

The *Fin* Garden is one of the most beautiful Persian gardens, built in the *Safavid* period. This garden is a prominent example of *Chaharbagh* in Iran due to its square shape. The *Fin* Garden is located near *Kashan* City in *Isfahan* Province. The *Fin* Garden was a royal garden designed for the reception and stay of kings, courtiers, and their families when in travel they want to rest for some days in *kashan*. Enough space and facilities are provided in the garden for rest and living (a temporary residency). A house is located at the end of the garden, called the *Shahneshin* (the place of king settlement). On the west side, there is a large bathroom and chapel, and on the east side, there is a museum which has been built in recent years and is open to the garden. At the center of the garden, as well as in the northwest, there are two *kushks*. Around the garden, a special enclosure is constructed from mud-bricks and adobe. It has an entrance which is very high and visible from a far distance. It contains a wooden door that opens into a hall. The entrance hall is decorated with tiles and sun-dried bricks. The hall has no direct access to the garden; however, the garden is visible through the porous walls (Fig. 1).

There is a corridor on the right side of this part that provides access to the garden. The garden also has some towers for surveillance of soldiers. At the middle of it, there is a two-story pavilion called *Safavids Shotor Galu* with two main water streams crossing below and pouring into a pond (Fig. 2) Above the pond (*Howz-Khaneh*), there are rooms connected with corridors and terraces. It has four doors and entering is possible to this part from all sides of the garden. Water in the garden provided by the *Fin* spring originated from the upper mountains. Water flows from three different spots into the garden. The main axis extending from the entrance to *Safavids Shotor Galu* is the most important garden axis. In the end, waters of all the streams combine and exit from the opposite of the

¹ A *panj-dari* and *se-dari* are the rooms that have a window respectively with five (*panj*) and three (*se*) contiguous parts.

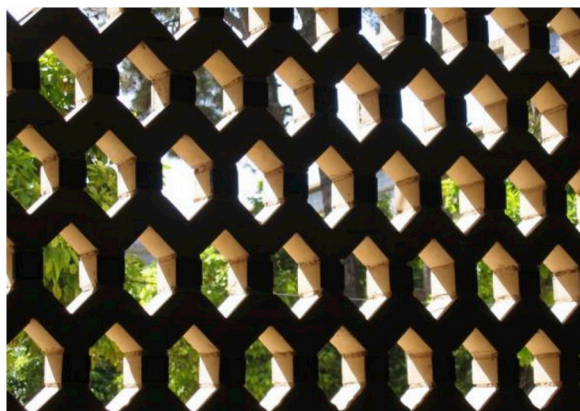


Fig. 1. The garden is visible through the porous walls.



Fig. 2. Main pavilion (*Safavids Shotor Galu*) and cedar trees at both sides of the pathway in the *Fin* Garden.

entrance portal of the garden (Fig. 2). The garden is also surrounded by exterior walls that separate it from the surrounding environment and all the building are distributed along these walls without any disturbance to the garden plot.

3. Layers of experiencing the Persian garden

In the traditional world, people's thought and perceptions about the world was different according to their tendencies and desires, and the tools they had (which completely differ from people's tools, desires, and tendencies in the modern world). They sanctified the nature (maybe because of their weakness against nature), and either had not any destructive tools to interfere in the environment. This different vision on nature led them to produce different spatial qualities. Various civilizations developed their own way of creating art and architecture according to their geographical situation, religious, tradition, and culture. Hence, it can be seen that this space was created with people in a specific cultural context and the quality of the environment emerged from their vision of the world, nature and the life itself.

Epistemological foundations from this culture can be very helpful in discovering the latent layers of this built environment (which has created its quality). Religions were very influential in Persia's civilization: in art, architecture, and people's worldview. Therefore, in order to study a built environment such as the garden and the quality of the environment created there, this paper uses the people's vision and various kinds of understandings of the world and religion. The religion was part of human existence and thought, not so detached from their worldview as in the modern world is seen. The paper is used the concepts based on a stratification of religion (not by the meaning of ideology or school of thought, but by the meaning of humans' relation with their creator) and it will be used in our analysis as the intellectual basis.

Jalal al-Din Rumi, Sheikh Mahmoud Shabestari, Seid Heidar Amoli and some other sages who spoke of the *shariah*² [rituals and laws], *tariqah* [the true path], and the *haqiqah* [the inner dimension] of the religion were undoubtedly treading on this domain (Sorush, 2005). Three integrated ways to a goal that must be followed together (Sorush, 2005) to reach the main goal of religiousness. Considering the people's knowledge and worldview in planning a space, could help us in doing an integrated

² Religion layers are the religious law (*shariah*), the mystical path (*tariqah*), and the truth (*haqiqah*).

comprehensive survey on the garden and its specific qualities. The aim of this borrowing from an epistemological concept is achieving a new kind of knowledge to investigate different tiers of stimuli in an environment and perception process by human (which is limited by his ability). According to Dr. Abdolkarim Soroush, understanding occurs in layers of the body, mind, and soul. (He contends they can, in current accordance, be named as: 1. Pragmatic (or Utilitarian) religiosity; 2. Gnostic religiosity; 3. Experiential religiosity (Soroush, 2005).

Dr. Abdolkarim Soroush is one of the most influential figures in the religious intellectual movement of Islam. In his book “The Theoretical Contraction and Expansion of Religion: The Theory of Evolution of Religious Knowledge” he introduced his famous theory to different readings of religion (Soroush, 1994). In order to solve the disputes arising from the modern view of religion, he gave a layered look to various stages of religion. In fact, based on the various views expressed in religion, he proposed three stages of this concept (religion). These three stages derived from humans ability of perception and understandings. This approach led us to have a layered approach for analyzing the garden as a place created by the human creature with his limited ability to understand the world. These layers are not of the subject, but they are of the perceiver who is a multi-layer creature. The relation with the environment is both expressed and understood in the most general and the most specific possible forms of these three layers. These layers affect perception, understanding, and of course construction of the concept of making a space.

Many other scholars also discussed about different layers and quality of perception. Bonnes, Lee, and Bonaiuto (2003, p. 551) believe that people perceive an environment (a place) in the combination of cognitive, emotional, and psychological factors, depending on the overall quality of the physical environment and on its specific characteristics. Massey (1995) suggests that place perception is a social product and therefore, it is not static. However, Heidegger (1977) believes the identity of a place (perceived by people) is a more natural phenomenon rather than the product of social practice and our perception is more related to the structure of space. Lukermann (1964, 168) asserts that “knowledge of a place is a simple fact of experience.” He also indirectly mentioned three levels of perception. He believes that what people understand from a place is what they observe, contemplate, and expedite. These three processes of perception are very close to the three different layers of perception derived from Dr. Soroush's three levels of understanding.

In other words, the perception of a place is not a matter of things identified by sensual perception as defined by Dennis (1951), but is obtained by seeing into it, appreciating the elements of its identity and identifying with it; perception stems from experiencing it (Relph, 1997, 54). And it is not simple, common, rather it is interpretive, with different qualities. According to Maslow (1968, 71–96), the experience of space could result in a kind of perception providing a moment accompanied by a euphoric mental state. He defines this kind of perception as peak experience; “rare, exciting, oceanic, deeply moving, exhilarating, elevating experiences that generate an advanced form of perceiving reality, and are even mystic and magical in their effect upon the experimenter (Maslow, 1968, 96).” Peak experience is perceived holistically and felt through different elements (in different layers (Maslow, 1968, 71); a feeling that according to Harvey (1993, 11) could be achieved by the unity between human and the environment (things), which includes not only a physical setting but also is filled with human activities, and human social and psychological processes (Relph, 1997).

In brief, although perception and understanding of an environment may be very personal, they are one's individual feelings; rather, such perceptions are shaped and produced by stimulus of the environment (Rodaway, 1994), experiences (Massey & Allen, 1989) and social actions. This review conforms with the knowledge distracted from a local epistemological framework from Dr. Abdolkarim Soroush, Jalal al-Din Rumi, Sheikh Mahmoud Shabestari, and Seid Heidar Amoli's theories about understanding (Soroush, 2005). In the following, different layers of perceptions through the epistemological analysis are examined in the Persian garden (and the *Fin* garden is the case of this study).

3.1. Perception through the body (Pragmatic layer)

Understanding by senses is the first and fastest layer of perception. In this layer, the sensory receptors recognize and deliver most perceptions. The senses are stimulated through stimulants: colors, smells, textures, and sounds lead to the stimulation of sensory receptors and get them to work. These stimuli partly satisfy bodily needs (Ramachandran & Hirstein, 1999) or provoke the bodily senses. In this layer, the four-seasoned Persian garden has enough complication and variety of stimulating factors to motivate the senses. These connections are physical. With all advisement and delicacy considered in the Persian garden to deliver these stimulants, this sensual perception is of the physical (the outmost layer) type.

The sensory experience provides multisensory understandings of the environment, which strengthen the connection between people and the place. For example, ‘visual clues’ in the area help in creating the image of space; ‘sound and touch clues’ help in providing identity and territory to space; ‘taste’ helps in getting the meaning of space; and ‘smell’ helps to recollect memories about the place (Wankhede & Wahurwagh, 2016). According to Rodaway (1994), this perception is the detection of information through the senses. Touch, smell, and taste provide information on the ‘near-space’ range; whereas; visual and auditory systems can receive information over a greater range as ‘far-space’ (Wankhede & Wahurwagh, 2016).

Understanding these stimulants can be expected to operate through any healthy human body, which implies a common understanding and vision. Although the inner interpretations that broaden one's mind are different from person to person, the stimulation persists as the stimulants get the brain involved. The large load on the senses directly creates a sort of excitement and curiosity as observing the space while creating a motivation to search and find more. This layer defines the elements in the garden and justifies them in a preliminary phase. By examining this layer, it can be said that astuteness in the setting and ways of stimulations, and having a plan year long (four seasons) for the rebirth and survival of life in the garden are among tricks and ideas that play an important role in creating various sensory stimulators throughout the year and throughout the whole space. A comprehensive and obsessive attitude

is seen in the layout – a harmony that is indescribably unique in the juxtaposition of stimulants.

In the *Fin* garden's various elements are in the garden that stimulate human senses. For example, the color of the flowers of the fruit trees, the water and the sound of it flowing, the cooling created by it, and the sound of the birds in the garden are among the sensory stimuli that are abundant in the garden (Ramyar, 2012). Next to the pavilion, the sound of water is heard louder through the waterfalls, and there is more light because of shorter trees, which are planted further to the building. Such factors are seen in every corner of the garden. Visiting the garden is the only way to experience the whole process. The stimulation of the sensory organs creates an inner thrill, which is an ideal idea for improving the quality of spaces. In the *Fin* garden various kinds of fruit trees (such as fig, mulberry, pear, pomegranate, and apricot) and decorative flower (like *Rose* and *Akhtar*) are planted. Seasonal flowers (such as marigold and French marigold) are planted during the various season along with the season of flowering of the trees, create different aspects and different quality of space for the garden throughout the year. Diversity of the plants also improves biodiversity and attracts a variety of animals, especially birds. Birds singing alongside the sound of wind and water in the garden create various sound quality. Trees, fruits and moving water motivate visitors to touch the nature and create a lot of sensory quality for visitors. Ceramic pipe fountains, which make melodies in gardens, have been installed at equal intervals in waterways. Different features such as fountains, ponds, pools, and brooks, represent water more optimally and show various water volume. Another pleasant voice in the *Fin* garden are the birds' songs, which are heard all around the garden.

3.2. Perception through mind (Gnostic layer)

In this layer, there is a different approach toward space compared to the previous layer. A kind of rationalism works to yield meaning from the garden by delineating the space through its geometry, order, and form. Thought has organized the space. Finding a dominant geometric scheme or geometric system is one of the most important objectives and, in fact, would be the result and outcome of this stage (perception or organizing the space through mind). It involves the search for finding a powerful aesthetic correspondent to proportions and human desires. The combination of natural and geometrical forms, understanding dominant concepts and expressing them through physical and spatial elements, and creating sequential events following each other are the main manifestation of this layer. As an architectural space in the garden, the pavilion is exemplary in proportions that become the main and central basis for the geometry to develop and emanate through all four directions around it.

Finding spiritual geometry, which represents heaven, is the important result in this layer. Formal interpretation and the sacredness of its repetition in the garden from *Qoranic* verses and the *hadith*³ all show the manifestation of philosophy, concept, and identity in one space. The simplicity of the previous layer is put aside. Geometry and order affect the choosing of vegetative types and setting them out in hierarchical order. Visual paths and fine complications present the goal and the concept of all the garden's elements, helping to reach its superior aims. Water moving in the opposite direction of the garden's walking path invokes an internal fascination, excitement, and imagination. This imposing of man-made order on nature gives it a new concept, identity, and meaning.

A kind of pluralism or multiple interpretations of spatial perception can be traced in this layer. Each person forms his own understanding in viewing and experiencing spaces. This understanding can be whether crass, primitive, deep, delicate, or discriminating, but, generally, it is based on a person's attention level. This understanding is limited to each person's experience. In other words, discord in valuations springs from perceptual differences of people, as landscapes are viewed through the variety of associations by people, determined by their personality, prior experience and influence of culture as reported by several authors (Newell, 1997). The pure geometry of the garden, along with the regular arrangement of the garden, which in total, form a harmony, represents this layer.

Geometry of spaces affects our feelings and consequently our perception. Amir, Biederman, Herald, Shah, and Mintz (2014) believe that the human brain is equipped with an in-built sense of geometry. People prefer symmetric shapes because of their “perceptual fluency”, or “high fluency” (Hekkert, 2006) as they contain less information than asymmetric shapes (Yu et al., 2015). Environments with symmetrical shapes have direct effects on the positive aesthetic response of an environment. This kind of stimulus provokes the higher level of pleasures as Kubovy (1999) named it as pleasures of the mind. In the *Fin* Garden, these attractions improve visual perceptions. Tree planting and their selection are very cleverly done. At the first level, near walkways, tall and stretched trees, such as cedars, create a visual axis and concentrate visions to the front building (*kushk*). These tall trees are planted next to the garden's enclosure, which draw attention from the outside to the garden. Repetition of these trees and the rhythm generated by cedar trees clearly form elongated rectangular shaped landscapes inside the garden. Exterior porous walls also do this attraction. The beautiful quality of the architecture of the *kushks* and buildings, the irrigation system and fountains, the arrangement and zoning of the paths in the garden all create a specific quality in the environment that can be placed on this layer (Fig. 3). *Shah Abasi Shotor Galu*, which has been constructed in two stories, defines the focal point of the main axes. Buildings and entrance hall that are built in very beautiful form create a unique and memorable environment for the garden.

Precise geometrical order, symmetry, axial open-ended continuation, and repetition were the outstanding characteristics of the *Fin* Garden. At present, there are seventeen major *Karts* in the *Fin* garden whose margins are lined by cedar trees. All the path-leading routes to the main pavilion have two symmetrical rows of big cedars with a few plane trees in between (Jeyhani & Omrani, 2007) making the routes as green corridors of walkways with cool shade. The garden has various form of pools that increase the complexity of the space. Water increases the local air moisture which cools the garden's environment especially during warmer seasons. Moreover, the water system is part of the garden organization. The main axis extending from the entrance to *Safavids Shotor Galu* also

³ - Hadiths are oral traditions relating to the words and deeds of the Islamic prophet Muhammad.

is the most important axis for water manifestation with the greatest volume of water.

3.3. Inner perception through soul (Experiential)

To come to this understanding, two covers (or layer of understanding) are used: Pragmatic (bodily) layers, and Gnostic (mental) layers. Those covers will be guides for us to form a structure in which understanding of space is possible. In these layers, it is seen that the garden transforms space into stimulants that affects one according to human knowledge-seeking and emotional needs. Body and mind stimulants evoke structure and order in the spatial arrangement. In this layer, the focus is on the hidden element in the garden. It ultimately presents the garden as a world ever-present. Humans feel it and understand it while their emotions kindle in their presence. They feel an inner presence in the garden, not a physical or mental one and get a result that is the “unity of spatial experience.”

It is in this layer that the world of the garden is felt by accomplishment of spatial experience. The focal essence of space is presented. The garden pulls us into its space-world by its internal and external fascinations. Seeking the garden equates with seeking the self when the garden is experienced to its fullest. All signs and stimulants unify to be perceived as one and finally turn into one quality: unity of spatial experience. Such an experience makes some kind of movement and florescence inside us. This experience is resulted by interactions with the space (with all its features as a complete world) and person (with all his states, a world). In this experience, the space-garden provides us an understanding of the subjective and objective worlds simultaneously. The space gets to flow and is understood in the mind and gets internalized forever. This is how one senses a unique feeling and perception in the face of the disappearing space. Experiencing unity of space fills the voids in our interactions in a way. Human interactions in space give meaning to it. A spontaneous modesty comes to the person in harmony.

To describe this space more concretely, we could take advantage of language. If we consider space as a language (Alexander, 1979), and consider the garden or any other special space as a statement, the feeling of reading it will be equal to experiencing space. Some spaces are superficial, while others are mind-boggling, appetizing, and astonishing. There are some spaces that make you modest. “Unity of spatial experience” in the garden's world can be expressed as a statement that seems to carry otherworldly scents. It is arousing and nurtures the experiencing person. It becomes exciting like a beautiful poem or verse. This excitement is neither from prosodic principles (Gnostic layer) in poems, nor from the nice words (Pragmatic layer) that are used alone or in different contexts. It rather seems to unveil a world before our eyes in this special situation. So, it looks like as an internal creation: the composer has placed something from inside him into the masterpiece that interacts so effectively with the one who observes it.

In this layer, the *Fin* garden is defined and perceived as a unique world, having identification with the human, enclosed with tall walls. Space, context, ideology, knowledge, and religion have all come together to make a conceptual creation in the form of the garden. The space that has been built for recreation and excursion should help its visitors to entertain. The pristine nature or agricultural garden causes a special kind of perception in the environment. However, the *Fin* garden, with its unique spatial structure, is a kind of environmental pattern that, while benefiting from natural elements and its benefits and effects on human beings, timelessly creates pleasure and entertainment for its visitors. Such quality is not obtained only due to the natural elements of the garden. The most important thing in this garden is that the experience is spatial.

Providing unity within multiplicity is one of the main concepts in Iranian Islamic art. The Persian arts (especially after Islam) relies on multiplicity to attract the attention of fragmented man, and on unity to orientate that attention towards the Divine Unity (Hejazi, Hejazi, & Hejazi, 2015). In the *Fin* garden, despite the simplicity of structure, the spaces are unified holistically. The garden contains diverse spaces, mostly created by and around the routs that have no ends. Even in reaching the central building (*kushk*) the routes do not finish (Fig. 3). The route reaches to a hall with a pool that has three other entrances, like the entering point and people could follow the route to the other three openings (Fig. 4). The *Kush* has four arched openings (vault) completely open to the garden. Behind the dome it is hard to distinguish between inside and outside, in a betweenness space, the openings provide a very similar view to the garden. People lost the direction with these four entrance points due with similar views to the garden. The garden is also divided into four sectors, like the building which has four openings (Fig. 5). Pool with stagnated water in a dome, which provides a quiet space, is completely in contrast with outside busy and noisy waterways and cascades, creating a unique sense of space in the diversity of repetitive and rhythmic geometry like a fractal pattern.

The ceiling of *Kushks* has a dome decorated with beautiful painting and stuccoed like *muqarnas*, as an archetype of sky (Fig. 5). The subdivision of the *muqarnas*'s vault into infinite, tiny and interrelated segments, toward the center of the dome, imply the Unity of the Divine principle; the conception links all aspects of the cosmic existence to One, symbolizing ‘unity within multiplicity’ (Hooshangi, 2000). Unity in features and structure of the garden, accomplished by experiencing the garden as a word and as Harvy (1993) said, it helps in generating unity between human and the environment.

Strong involvement in the process of experiencing the space creates a distortion of the sense of time and a loss of self-consciousness. This kind of experience could be related to the phenomenon of flow mental processing (Csíkszentmihályi, 1990) (as an effortless mental energy flow) or spiritual transcendence (Piedmont, 1999), (as a feeling of connectedness and unity with other people, life, nature, and the like). This is close to Maslow's (1968) concept of peak experience which referred to full engagement in a particular space. This experience detached the user from everyday purpose and usefulness. It provides a strong and clear feeling of unity with space. The garden as a space in this layer is as a complex whole like a fractal. It is not the repetition of things in a thing but it is compositions of things in a thing.

Today, the profit-driven markets influence the design of spaces (Ramyar, Esmail, & Bryant, 2019). Most of the public spaces are filled with various high-tech equipment creating diverse and unintegrated experiences. The purity of space in the Persian garden, its world and imminent connection of visitors to nature create a timeless quality of experiencing throughout the environment (Ramyar,

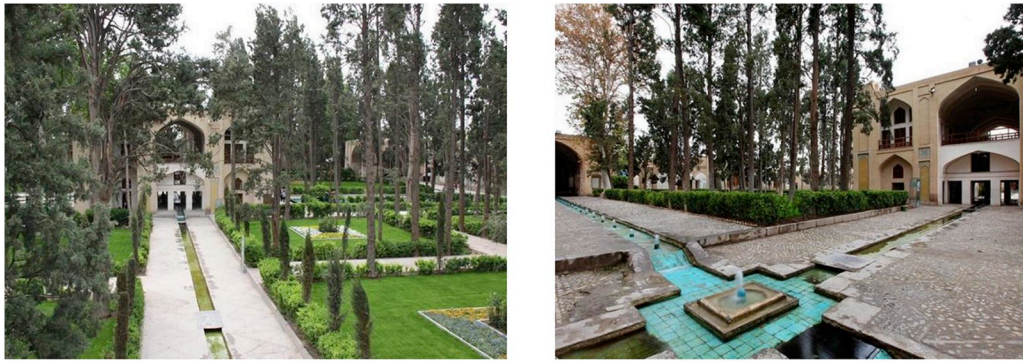


Fig. 3. The garden decorated with unique form and geometrical shape.



Fig. 4. The *kushk* in the *Fin* garden is located at the center of the garden and consists of four vaults (opening) and a dome.

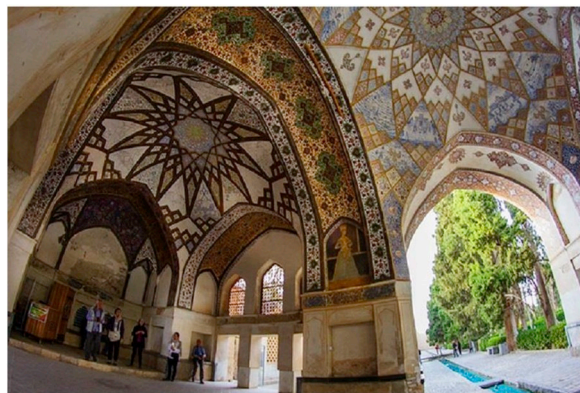


Fig. 5. Ceiling of the *kushk*: A 12-sided star with angular extensions on the *Kushk*.

Hayati, Saeedi, & Taj, 2019). This kind of experience and perception is not visible and perceptible in most of today's urban parks and green spaces, where creating more excitement or a different atmosphere than other environments (what is so much considered in architecture and landscape architecture today; innovation in forms) are the main goals in their design.

3.4. External relations

The Persian garden, as an open space, has different affordances. Its spatial pattern is widely used in art and architecture in old Persia. The garden and its natural elements like flowers, nightingales, cedar, water, and walls are all abundantly visible in old Persian poetry. Poets used many elements and spatial quality of the garden in their poems to express their feelings or messages. Gardens and spatial quality are described in different frameworks. These descriptions reflect people of that time's understanding of the garden. In some poems, the poet expressed his individual perception of the garden and his feeling about the experience of strolling in the garden.

For instance, this kind of perception is visible in these two verses:

Last night, in the garden of *Iram*,⁴ when from the bounty of the air,

The tress of the hyacinth was disturbed by the morning breeze (Divan of Hafiz, Poet No.81).

Or in:

From the world's rose-garden one rosed cheek is enough for us,

From this sward, the shade of that moving cypress enough for us (Divan of Hafiz, Poet No.268).

In the first verse, the poet expresses the qualities of an environment made by the breeze. In the second verse, the poet expresses his contentment of the endless beauty of cedar and grass in the garden, wants only a place under the shadow of cedar for all his life. Sometimes this understanding expands from an individual perception and the garden becomes a context in a relationship between two people, usually two lovers, like what is visible in these verses:

Spring and garden will be sweet –if you are- with rose-face Turkish woman,

Bitter wine will be sweet with happy good friends (The Divan of *Ouhadi*⁵ Poetry 2017)(*Ouhadi Maraghei*, 2016) (poem no. 231).

Through the garden, near the stream and behind the cedar and close to flowers,

Feeling joy inside, a full glass of wine, and blossoming flower are sweet.

The ears filled by the song of the singer and the beloved's hand rounded the neck,

Delighted drunken walking on the grass is sweet (The Divan of *Oohadi* Poetry, 2017) (poem no. 231).

In these poems, the poet, without the presence of his beloved, finds the spring and the garden meaningless, presenting a perception of the environment in presence of his friend or without his friend. In some other poems, the poet likes to be with his friends in a garden or feels pleased to walk in the garden with them. One such feeling is expressed in this verse:

The court of the garden is joy-giving and the society of friends;

Pleasant, be the time of the rose whereby the time of wine-drinkers is pleasant (Divan of Hafiz, Poet No.43).

These descriptions of the garden show various kinds of perception: individually, (in communication) with a friend, and in community. These kinds of descriptions about the garden are repetitively visible in Persian literature, shown different kind of feelings (or perceptions) of the visitors in the garden.

What can be said of these qualities is that it is in the presence of one's self accompanied by the others (people) that the garden's experience reaches its climax. Understanding one's relation with space happens when perceiving the environment, but would not one have a different perception of space affected by the presence of others? Is it possible for one individual to feel the extremity of space with personal interpretation and perception? A human is a social creature and needs society. In this situation (with others), one focuses on communication with the environment and develops connections in the layered context of the garden while also communicating with others. Ordered nature, this time targets the communication. This communication is not possible without human's inner ability and existence. The garden does not make a direct relationship, on the other hand, it communicates through an interpersonal relationship. It seems like the garden-space fades out and becomes part of the other person, or it takes the shape of the relationship with the other person. This is how the perceived garden and its memories take the quality of this communication (Fig. 6). Sometimes it gets romantic, sometimes exciting, and sometimes mysterious. This separation of layers does not ascribe to the inside and outside of the garden. It specifies the type of relationship of the perceiver and the way he communicates in space. This is how social functions and the concept of community and communal satisfaction (as in recreation and excursion) in the garden are logically justified as regards the inter-group relationships and also the relationship between each of the members.

The *Fin* garden, like other Persian gardens, made for recreation and excursion, has been very successful in this usage. Some Persian poets like Azar Bigdeli (1722–1781), Malekolshoara-ye-Bahar (1886–1951) and Adib Beyzaei Kashani (1881–1933) wrote poems about the *Fin* garden, mostly describing the history and beauty of the *Fin* garden and recorded some historic events in the garden. The poems mostly are written in admiration of the kings or the beauty of the garden, rather than peoples' activities. Moreover, some foreign travelers describe the *Fin* garden in their accounts. *George*, 1892 and *Wilber* (1994) wrote about their experience in *Kahshan* and the *Fin* garden. Mostly they described their experience in the *Fin* garden briefly. For instance, *Comte de Sercey* (1928) had a sobering experience which are expressed in his writings, showing the activity was done in the garden and the quality of space in term of garden elements and structure:

"After traveling one and a half hours out of the town a hill is seen atop which a villa has been constructed and I went to visit it. Having got off the horse, I was directed toward a garden which had a well treed and green walkway under the shadow of lush pine and cedar trees. The walkway led to a glorious palace with an excellent pavilion standing at its top. The building overlooks a large lake with a floor made of beautiful colored tiles. A bright stream runs into multiple fountain and fills the lake as well as water canals

⁴ Name of a Persian Garden in *Shiraz*.

⁵ One of prominent Persian poets who lived between 1274 and 1337.

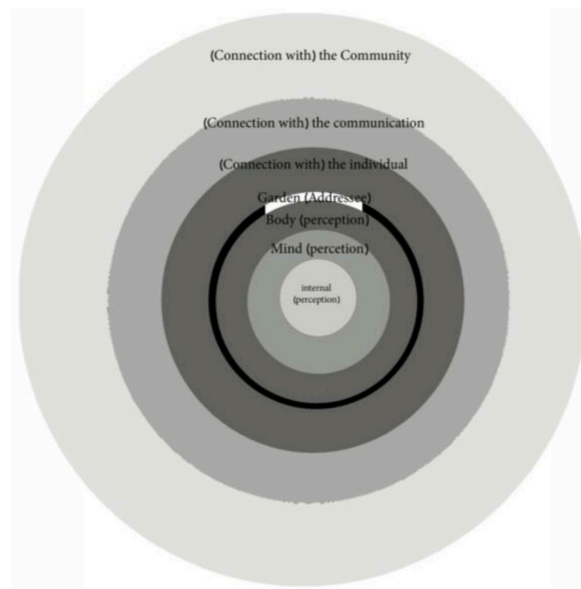


Fig. 6. Perceptual layers of human interaction with the garden.

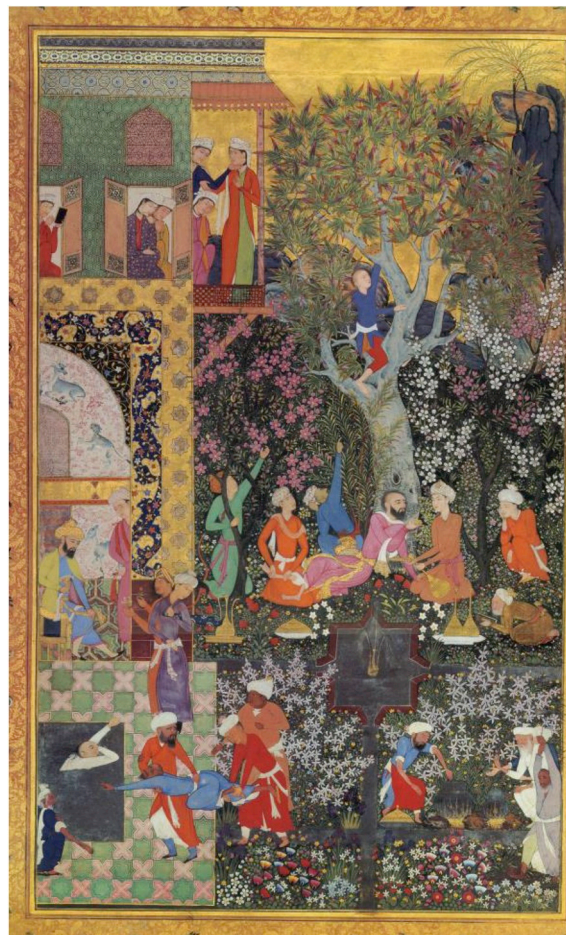


Fig. 7. *Moghhae Golshan*, 15th Ac. Persian miniature painting depicting recreation and excursion in the Persian garden (Tehran museum of contemporary arts, 2005).



Fig. 8. From the *Haft Awrang of Jami*, 1540 A.C. Persian miniature painting depicting recreation and excursion in the Persian garden (Tehran museum of contemporary arts, 2005).

along the walkway. Flocks of fish jump around fountain and it looks as if amid clear water waves a glowing ray shines into the space. This beautiful masterpiece of nature caresses the heart and eyes of its beholders and invites them to view an exquisite spectacle..... I had never and nowhere seen such an exhilarating and enlivening scene. And I will never forget the play of human emotions and passions envisaged in lovely motifs of the pavilion and garden grounds (ICHHTO, 2010b, p. 196)."

Persian miniatures are good resources to show the activities done in the garden. Unfortunately, there are not any Persian miniatures drawn about the *Fin* garden. As it is seen in the miniatures left from times that these gardens were widely used and were very close to their original concept, they were very successful in their function, communal usage, and presence of the collective spirit (Figs. 7 and 8). In the time when spaces were not yet filled with colorful modern products, and in times when a human did not feel a large distance between nature and himself, and he could still fully sense nature, he was indeed dazed and enchanted by the garden and used it to the fullest (Ramyar & Zarghami, 2017). The garden space invited the modern society to enjoy the recreation and excursion in the ordered nature to enjoy the events that were created not by instruments, but by gathering and engaging in warm relationships with other people and nature. This function can be seen in the public and urban spaces of Isfahan's *ChaharBagh*. Chardin (Chardin, 1988) and other travelers, who visited Iran in the *Safavid* dynasty, approve the fact that *ChaharBagh* was a public urban phenomenon made for people's recreation and excursion (Beheshti, 2009b). That is how the Persian garden entered public and urban areas. This type of space repeatedly occurred in the very beginning of the *Safavid* period in other cities of Iran like *Qazvin*, *Sanandaj*, and *Shiraz*. It had turned into a base for building cities (Beheshti, 2009b).

This tight relationship between space (product) and humans speaks of the space's complete reconciliation with a common and nameless quality in humans (Alexander, 1979). Wherever there is fruitful soil and flowing water, in other words, wherever nature assists man and they, as well, praise lord for nature's passion and beauty, the garden is recalled in a harmonic relationship of human and nature. The man-made garden would then impose its utmost order and expose its natural stimulants and its own world in its dwellers' minds, bodies, and souls. It is enough to believe in alchemy to artfully turn the soil into the philosophers' stone and make dynamic and abiding spaces in our urban domain.

4. Conclusion

This paper tries to present a new view over the built space to give a new model of understanding the environment through the Persian garden with the case of the *Fin* garden in *Kashan*. This can be helpful in our designs if we believe that the quality of space—as

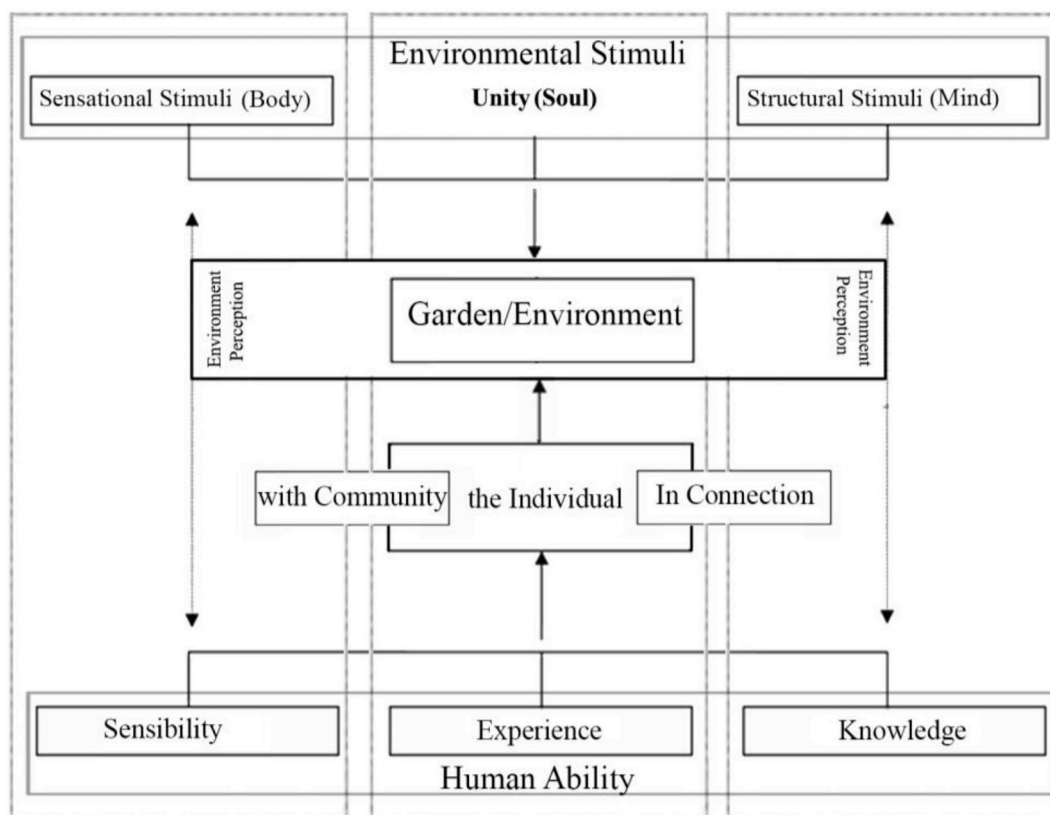


Fig. 9. Environment stimuli, human abilities, and the ways he perceives the environment.

a work of art—is either consciously or unconsciously reliant on the user and manifests the observer's inner layers. Considering the presupposition that this space has distinct characteristics mentioned in the passage as of the Persian garden, it is analyzed using the epistemology-based model. Therefore, the garden as manifested in its addressees' internal and external layers was studied.

The type of perceiving and communication with the garden depends on the origin of the connection, and the person's mood in relation to the garden. The relationship can be of body, body-mind, or body-mind-soul type, depending on its origin. The spectators' impression of the garden forms according to these connections and communications. In this model, internal layers are of high importance. Focusing and emphasizing on all layers and their quality results in a comprehensive interaction which leads to the understanding of space. This kind of approach can be used in the analysis, description, and discovery of purposes of spatial arrangements, or in understanding reasons for their being acceptable (Fig. 9).

Understanding space differs in the presence or absence of others (an individual, a couple, or a group). It also depends on, first, the power of space in strengthening this relationship, and second, creating and strengthening a relationship between any individual in the mentioned group conditions and the outside space with all its elements to be perceived by one's different preferences. The garden, which has a recreational nature, was used to achieve the important goal of defining the ultimate totality of space-group through completing and understanding stages of perception in open spaces. The garden or any built environment becomes complete as perceived through at different levels and layers.

References

- Alemi, M. (2007). Princely Safavid gardens: Stage for rituals of imperial display and political legitimacy. In M. Conan (Ed.), *Middle East garden traditions: Unity and diversity* (pp. 113–156). Washington: Harvard University Press.
- Alexander, C. (1979). *The timeless way of building*. Oxford: Oxford University Press.
- Amir, O., Biederman, I., Herald, S. B., Shah, M. P., & Mintz, T. H. (2014). Greater sensitivity to nonaccidental than metric shape properties in preschool children. *Vision Research*, 97, 83–88.
- Ardalan, N., & Bakhtiar, L. (1973). *The sense of unity: The sufi tradition in Persian architecture*. Chicago: The University of Chicago Press.
- Beheshti, S. M. (2009a). *The world of Persian garden. Golestan-e Honar*. 12, Tehran: Iranian Academic Art7–15.
- Beheshti, S. M. (2009b). *The Sonnet of Iranian/Persian garden. Golestan-e Honar*. 11, Tehran: Iranian Academic Art8–12.
- Bonnes, M., Lee, T., & Bonaiuto, M. (2003). *Psychological theories for environmental issues*. Ashgate Publishing Limited.
- Chardin, J. (1988). *Sir john chardin travels in Persia 1673-1677*. New York: Dover Publications.
- Conan, M. (2008). *Middle East garden traditions*. Washington D.C. Dumbarton Oaks.
- Csikszentmihályi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper & Row Publications.
- Dennis, W. (1951). Cultural and developmental factors in perception. psycnet.apa.org.
- El-Deen, H. (1994). Paradise on earth: historical gardens of the arid Middle East. *Arid Lands Newsletter*, 36, 5–11.

- George, N. C. (1892). *Persia and the Persian question*, 2 vols (London).
- Harvey, D. (1993). The nature of environment: dialectics of social and environmental change. *Socialist Register*, 29(29).
- Heidegger, M. (1977). *Basic writings: from Being and time (1927) to The task of thinking (1964)*. HarperSanfrancisco.
- Hejazi, M., Hejazi, B., & Hejazi, S. (2015). Evolution of Persian traditional architecture through the history. *Journal of Architecture and Urbanism*, 39(3), 188–207.
- Hekkert, P. (2006). Design aesthetics: Principles of pleasure in design. *Psychology Science*, 48(2), 157.
- Hooshangi, F. (2000). *A study of Safavid urban pattern and a symbolic interpretation of the Chahar-Bagh gardens*. Master of Architecture Thesis. Carleton University, School of Architecture.
- ICHHTO. (2010). *The Persian garden, UNESCO: World heritage, nomination file*. Date: 07.08.2019 <https://whc.unesco.org/uploads/nominations/1372.pdf>.
- Jeyhani, H. R., & Omrani, A. (2007). *Fin garden*. Tehran, Iran: Institute for Cultural Heritage, Handicrafts and Tourism.
- Kubovy, M. (1999). *On the pleasures of the mind. Well-being: The foundations of hedonic psychology*. Russell Sage Foundation 134–154.
- Lukermann, F. (1964). Geography as a formal intellectual discipline and the way in which it contributes to human knowledge. *Canadian Geographer/Le Géographe canadien*, 8(4), 167–172.
- Maslow, A. (1968). Some educational implications of the humanistic psychologies. *Harvard Educational Review*, 38(4), 685–696.
- Massey, D. (1995). Places and their pasts. *History workshop journal* (pp. 182–192). Oxford University Press.
- Massey, D., & Allen, J. (1989). *Geography matters*. Cambridge etc: Cambridge univ. press in assoc. with the Open univ.
- Newell, P. B. (1997). A cross-cultural examination of favorite places. *Journal of Environment and Behavior*, 29, 495–515.
- Ouhadi Maraghei, Kh. M. (2016). In Nafisi (Ed.). *Divan OuhadiTehran*: Ouhadi publication In Persian.
- Piedmont, R. L. (1999). Does spirituality represent the sixth factor of personality? Spiritual transcendence and the five-factor model. *Journal of Personality*, 67(6), 985–1013.
- Ramachandran, V. S., & Hirstein, W. (1999). The science of art: A neurological theory of aesthetic experience. *Journal of Consciousness Studies*, 6(6–7), 15–51.
- Ramyar, R. (2012). Unity in restoring: A study on healing attributes of Persian garden. *Journal of Islamic Architecture*, 1(4).
- Ramyar, R., Esmaeil, Z., & Bryant, M. (2019). *Spatio-temporal planning of urban neighborhoods in the context of global climate change: Lessons for urban form design in tehran, Iran*. Sustainable Cities and Society.
- Ramyar, R., Hayati, Z., Saeedi, S., & Taj, M. M. (2019). Evidence of poor environments in shared outdoor spaces of residential complexes in Iran. *Polish Journal of Environmental Studies*, 28(3), 1–11.
- Ramyar, R., & Zarghami, E. (2017). Green infrastructure contribution for climate change adaptation in urban landscape context. *Applied Ecology and Environmental Research*, 15(3), 1193–1209.
- Relph, E. (1997). Sense of place. In S. Hanson (Ed.). *Ten geographic ideas that changed the world*. New Brunswick, NJ: Rutgers University Press.
- Rodaway, Paul (1994). *Sensuous geographies*. London: Routledge.
- Ruggles, D. F. (2000). *Gardens, landscape and vision in the palaces of islamic Spain*. Pennsylvania: The Pennsylvania State University Press.
- Comte de Sercey (1928). *La Perse en 1839-1840*. Paris.
- Soroush, A. (1994). *The theoretical contraction and expansion of religion: The theory of evolution of religious knowledge (in Persian)*. Tehran.
- Soroush, A. (2005). *The ethics of the gods*. Tehran: Tarhe No Ltd.
- Tehran museum of contemporary arts. (2005). *Masters of miniature painting of Iran*. Tehran, Tehran museum of contemporary arts press.
- Wankhede, K., & Wahunwagh, A. (2016). The sensory experience and perception of urban spaces. *International Journal on Emerging Technologies*, 7(1), 741–744.
- Wilber, D. N. (1994). *Persian gardens & garden pavilions*. Tuttle Publishing.
- Yazdani, N. (2015). Linking ideology, habitus and landscape: Traditional and contemporary uses of gardens and parks in Iran. *Anthropology of the Middle East*, 10(2), 64–82.
- Yazdani, N., & Lozanovska, M. (2016). The design philosophy of edenic gardens: Tracing 'paradise myth'in landscape architecture. *Landscape History*, 37(2), 5–18.
- Yu, R., Gero, J. S., Ikeda, Y., Herr, C. M., Holzer, D., Kaijima, S., ... Schnabel, A. (2015). An empirical foundation for design patterns in parametric design. *20th international conference of the association for computer-aided architectural design research in Asia (CAADRIA)*, daegu, South Korea, may (pp. 20–23).