

Role of the Blending Concepts and Ideas of Courtyard and Garden in the Formation of Certain Important Works of Contemporary Iranian Architecture

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ABSTRACT

Architectural spaces are designed based on more or less recognized processes, which may sometimes rely on patterns, elements, and formal ideas, and at other times on specific concepts and notions associated with them. It appears that, based on a form of Western traditionalism—founded by René Guénon and prominently represented by Titus Burckhardt—the concepts of the courtyard and the garden became intertwined, a phenomenon that has influenced some contemporary architects and their works. This research aims to examine how the concepts and definitions of the courtyard and garden in historical Iranian architecture have influenced contemporary architecture. The research question is: How has the perception and understanding of historical Iranian architectural concepts played a role in the design of certain contemporary buildings? This study employs an interpretive-historical research method. Some of the notions related to Iranian architecture serve as independent variables, while specific contemporary designs and buildings are considered dependent variables. The statistical population of the study includes several architectural works by Nader Ardalan and Kamran Diba. The findings indicate that the definitions of the garden and courtyard in the writings of these two architects are intertwined. This interconnection has influenced the design of some of their works, such as the Management Center building by Ardalan and the Humanities Faculty at the University of Isfahan by Kamran Diba. For instance, in the design of the Management Center building, a combination of a school courtyard with the conception of a garden featuring a single pavilion shaped the design idea. In contrast, contemporary educational spaces with modern teaching methods cannot be accommodated within a spatial structure belonging to a pedagogical model of the past. This is likely one of the reasons for functional and spatial changes in the school (Imam Sadegh University). Similarly, in Kamran Diba's design of the Humanities Faculty, multiple central courtyards differ from the conventional university design patterns in Iran and worldwide. This can be interpreted as an emphasis on the central courtyard as a key identity-forming element in contemporary architecture.

Keywords: Garden, Courtyard, Central Courtyard, Contemporary Iranian Architecture, Nader Ardalan, Kamran Diba.

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1. INTRODUCTION

The intermingling of the concepts of the courtyard and garden, as well as a particular formal understanding of the courtyard, has led to the creation of several contemporary architectural works; this study focuses on this intermingling and its role in the design and construction of several contemporary buildings. This phenomenon is significant in that it demonstrates how the perception and understanding of historical Iranian architectural elements can play an important role in the design and construction of some contemporary works when a designer seeks to incorporate them into contemporary architecture.

Various movements and styles emerged in contemporary Iranian architecture, some influenced by Western architectural styles and currents, and others shaped by Iranian ideas and concepts, resulting in diverse tendencies in design. Evaluation and classification of contemporary works are usually based on the formal characteristics of constructed or designed spaces. At the same time, less attention is given to the thoughts, beliefs, and paradigms of the designers. Consequently, it appears that in some cases, from this perspective, the formation of certain contemporary buildings has not been sufficiently analyzed. An important and noteworthy point is that in visual arts and architecture, the interpretation of how a work was formed may sometimes differ from the actual cause of its formation; in other words, one cannot always deduce the process of formation, the architect's thoughts, or design intentions merely by examining the physical characteristics of a work. The aim of this research, based on the writings of Nader Ardalan and Kamran Diba, is to explore specific aspects of these architects' understanding and viewpoints to analyze several of their works. It should be noted, however, that according to available documentation, the design of these buildings was not carried out solely by Ardalan and Diba; each of them collaborated with one or more individuals whose specific contributions remain unclear, and therefore their roles are not explicitly mentioned. Nevertheless, based on the analysis of texts attributed to each of the two architects, it is evident that the primary responsibility for the understanding of the subject under study—the concept of the courtyard and garden—and its reflection in the design, rested with these two named architects. Critiquing the ideas and works of these esteemed architects does not imply undervaluing their contributions.

2. METHOD

The subject of this research is the role of how space is defined in the design of contemporary spaces; therefore, the perception and definition of space serve as the independent variable, and the manner of designing contemporary spaces serves as the

dependent variable of this study. The categories under examination pertain to the perceptions of courtyards and gardens by the modern masters Nader Ardalan and Kamran Diba, and selected projects from each of them have been analyzed. Specifically, the Harvard Management Studies Center (located in the Imam Sadegh University building) by Ardalan and the design of the Faculty of Humanities at the University of Isfahan by Kamran Diba have been studied. The book "The Sense of Unity" by Nader Ardalan and Laleh Bakhtiar, as well as the book "Buildings and Projects" by Kamran Diba, have also been utilized as written documentary sources. Data collection was conducted through documentary research. A case study method and content analysis were employed to examine the viewpoints of these two architects regarding courtyards and gardens. Since this study is qualitative, words were used for analysis and conclusion, and qualitative data were not converted into quantitative data. The population under study involves the manner in which the two architects define space.

3. THEORETICAL FOUNDATIONS

It is rare for a work to be created without any reference to previous works. In other words, every work is influenced, either directly or indirectly, and consciously or unconsciously, by previous works. This issue has been discussed under the concept of intertextuality by several researchers, which can manifest in various forms (Allen 2006).

Another critical point is that, typically, an architect may begin the design process in various ways; in some cases, the designer may start from functional relationships and the ground floor plan. This process primarily occurs in the case of functional spaces. In other instances, the overall image or formal conception of a space is first formed in the designer's mind and gradually evolves into the final form throughout the design process. In some cases, the design may begin with a concept, and subsequently, ideas compatible with that concept are developed (Cold 1995). A combination of these approaches may also be employed (McGinty 1979, 160).

Focusing on a concept, element, or space in architecture can have a significant influence on the formation of specific architectural works. The critical point to emphasize here is that a designer's idea or understanding of a phenomenon may differ from that of another designer. Similarly, a specific concept or element of architecture can lead to the formation of different ideas and varied designs.

It is also important to note that there are numerous definitions of the concept and its relationship with the idea, which significantly impacts the beginning and process of design. Moreover, the perspective of each architect on this matter is crucial, as it is worth noting that the ideas of some architects may remain relatively

stable over a long period, while others may undergo significant changes in their design perspectives. For this reason, countless methods can exist to achieve a design (Eilouti 2018, 185).

The type and characteristics of an architectural or landscape space are among the most crucial considerations in design because many diverse phenomena and factors influence the design of different spaces. For example, in the design of a theological school, architects often paid attention to a well-known functional pattern based on establishing dormitory rooms around the school. However, in the design of gardens, on the one hand, significant social, economic, aesthetic, and in some cases, political factors were involved, while, on the other hand, factors like the design of various landscapes, green spaces, and the surrounding environment, as well as the relationship with the plot and land, were of great importance and often determining (Lara 2023).

The architecture of any land is influenced, on one hand, by environmental and historical factors and the local traditions of that region (Le Bon 1974, 139). On the other hand, the function and behavioral patterns of each type of building play a role in its formation. For example, the architecture of mosques in Islamic countries has led to the formation of diverse architectural designs due to the existence of various architectural traditions (Ingpen and Wilkinson 1990, 75). In any case, the local, ancient, and historical design methods of each land have impacted their architectural design.

Iran has played an essential role in shaping the art and architecture of ceremonial spaces, particularly mosque spaces in some Islamic countries (Soltanzadeh 2021). For instance, the formation of elements like domes in major urban mosques and some arts such as miniature painting had a significant role in shaping the culture and arts of the Islamic period (Ibn Khaldoun 1974, 55). It seems that the architectural culture of Iran influenced the importance of courtyards in large and central mosques. Similarly, the historical design of gardens, particularly the concept of Chahar Bagh (four gardens), had a notable impact on the architectural culture of the Islamic world (Ebrahimi et al. 2014). Some Islamic countries, like Egypt, have rich cultural and artistic traditions. However, the polytheistic aspects of their art prevented them from making a significant impact on Islamic culture and art (Bennison 2009, 69).

4. FINDINGS

4.1. Definition and Concept of Courtyard and Garden from Various Perspectives and Their Analysis

-Definition of Courtyard and Its Explanation

The term “courtyard” is an Arabic word meaning an open space that is enclosed or semi-enclosed. In

Islamic times, it referred to an open space enclosed between buildings, especially the open space enclosed or semi-enclosed in houses, which is usually surrounded by walls or constructed spaces on four sides, and in some cases, three or more sides.

Courtyards in Iranian architecture are classified into various types based on function, location, size, and other specific characteristics, such as inner courtyards, outer courtyards, private courtyards, and rear courtyards (Soltanzadeh 2011). In some central and desert cities, to provide suitable green space in winter, a “Naranjistan” (orange grove) courtyard was created, especially during the winter when deciduous trees shed their leaves, creating a pleasant environment. Some service spaces in large complexes also had their own courtyards, such as kitchens, syrup houses, spring houses, stables, and others (Soltanzadeh, Amini, and Kiaee 2021).

Nasser Khosrow, in his travelogue, uses the term “Miān Sarā” (middle courtyard) to refer to a courtyard (Nasser Khosrow 1979). This term was also used in some regions of Iran until recent centuries (Samarghandy 1964) and appears in Ferdowsi’s Shahnameh.

The term “Mahvatah” is also of Arabic origin (Effendi 1997, 192) and appears to encompass a broader concept than that of the courtyard. It has been applied to many types of open spaces, sometimes to a combination of open and enclosed spaces, and even to an enclosed space or a part of an enclosed space. This term is occasionally used for enclosed spaces as well; for example, it may refer to the prayer hall area as the “prayer hall mahvatah,” or in some cases, it may denote a specific environment, such as a historical site referred to as an “archaeological mahvatah.”

- Definition of Garden and Its Analysis

The term “garden” is derived from an ancient word meaning to divide, and it is said to be the source of the Persian verb “bakhtan” (to divide) in Middle Persian and “bakhshidan” (to give) in modern Persian. It is also considered a part of the land that is cultivated (Proshani 1994, 573). This term has been used both alone and in compound forms.

In ancient Iran, great importance was placed on gardening and agriculture. In the Vendidad—a section of the Avesta—it is written: “Where is the happiest place on earth? Then Ahura Mazda said, ‘O Spitama Zarathustra, the place where most grain, grass, and fruit-bearing trees are, and where dry land is watered and marshy land is dried.’” (Vendidad 1982, 20).

Of course, the more majestic gardens were primarily the property of kings, rulers, and the aristocracy. While they served as places for family life and, in some cases, were used for administrative or commercial purposes, depending on the social status and wealth of the owner, they could also have an economic aspect (Soltanzadeh 2011).

The Naqsh-e Jahan Square in Isfahan, which now

includes the Chehel Sotoun and Hasht Behesht gardens, or the Chehel Sotoun garden in Sabzeh Meydan in Qazvin, which is a small part of the government gardens from the Safavid era, as well as the Golestan Palace complex in Tehran, are examples of such government-residential gardens. Although large portions of each of them have been destroyed, these types of gardens existed only in a few large palaces in capitals or major cities. Ferdowsi describes the design of these royal palaces, which date back at least to the Achaemenid period, in this way:

“From the terrace and courtyard of the grand palace, from the orchard and the noble garden...” (Soltanzadeh 1990, 103).

The first part of this poem refers to the terrace in front of the courtyard of the palace, where national ceremonies, parades, and other religious or national events were held, as seen in the remaining part of the Ali Qapu terrace. The second part refers to the ceremonial and residential gardens, which were usually located behind the courtyard, such as the Chehel Sotoun and Hasht Behesht gardens, of which parts still exist today.

In extensive residential gardens, there was typically an inner section, often called the “Andaruni,” which had its own central courtyard. As stated in a text related to a notable figure of the Qajar period, “Ismail, the servant, is not allowed to enter the Andaruni. The women are also not allowed to step outside the walls of the Andaruni. Even the father, a Turk, is not allowed to step into the Andaruni. The gardener is allowed to enter the Andaruni temporarily for a few hours to tend to the flowers, clean the channels, ponds, and the courtyard” (Mustafa Khan 1979, 91). This text shows that courtyards and gardens had different physical and functional aspects.

No architectural space has been described as much as gardens, and many poets throughout Iranian history have praised the garden space. In contrast, courtyards are rarely mentioned as excellent and ideal spaces, indicating a clear distinction between the garden space and the courtyard. Especially the courtyards of congregational mosques, which were typically devoid of greenery and trees, were considered sacred spaces. However, no poet has ever referred to them as desirable or ideal spaces. It seems that in historical depictions and other visual arts, courtyards without trees and flowers were not regarded as “paradise” (Blair and Bloom 2021), and Titus Burckhardt and Henri Stierlin’s reference to mosque courtyards as a symbol of paradise is an exaggerated, modern interpretation that lacks historical and architectural credibility.

4.2. Blending of the Concepts of Courtyard and Garden in Burckhardt’s View

It seems that Burckhardt’s attention and interest in expanding the symbolic framework of architectural elements sometimes led to exaggerated claims, and

without examining historical examples, he made points that cannot be generalized. For instance, he commonly viewed the garden as a symbol of paradise because paradise is described as a vast garden with streams flowing through it. The garden has been the most desirable living space, particularly in warm and dry regions. However, Burckhardt’s peculiar interpretation was that he also compared the courtyards of mosques to paradise. He wrote: “Every mosque usually has a courtyard with a fountain or well so that believers can perform their ablutions before praying. This water source is sometimes located under a small dome as a canopy. The courtyard, with a fountain in the middle, is like an enclosed garden with four streams flowing from its center, symbolizing paradise, because the Qur’an speaks of the eternal gardens of bliss (Jannat al-Na’im), where streams flow, and mentions one or two fountains in every garden where the heavenly maidens (Houris) dwell. The nature of paradise is such that it is hidden and secret, as it aligns with the inner world and the depths of the soul” (Burckhardt 1369, 148). a critical point to consider regarding Burckhardt’s interpretation is that his statement that “every mosque usually has a courtyard” is not entirely accurate. In some regions, such as Gilan, Mazandaran, Azerbaijan, and certain other parts of the Islamic world, several mosques were constructed without courtyards. However, some of them had open spaces in front (Ebrahimzadeh et al. 2021). The courtyards of Ottoman mosques were also built without trees. The simplicity of mosque courtyards was of such significance that it has been recorded that when, during the time of Ibn Tulun, the ruler of Egypt, a basin decorated with expensive stone was installed in the Grand Mosque of Cairo, some Muslims objected (Hillenbrand 2001, 55).

Therefore, the courtyards of large mosques, especially those of congregational mosques, were devoid of trees and green spaces because they needed to accommodate the maximum number of worshipers for communal prayers, and the continuity of prayer rows had to be maintained. It was only in cases where a second or third congregational mosque was built in a city, such as in Qazvin or the Vakil Mosque in Shiraz—where Friday prayers were not held—that trees might be planted. Furthermore, in the past, many cities were surrounded by gardens and farmlands, and access to green spaces was easily possible given the small size of the cities. There was no environmental pollution like today, and although green spaces were always desirable and essential, they were not regarded as they are in the contemporary world. Due to the urban fabric’s density, in some cases, even tree planting in narrow streets was prohibited. Therefore, the courtyards of mosques cannot be compared to paradise, as it seems that throughout history, no one has made such a comparison.

It seems that the blending of the concepts of garden and courtyard in the book *The Sense of Unity* reflects

Burckhardt's thinking, as the dominant perspective in the book is influenced by his views. Burckhardt's interpretation of the courtyards of Muslim houses also appears to be quite exaggerated. He offers a strange interpretation of the introverted houses in warm and dry cities, generalizing it to all Muslim homes: "The inner courtyard, enclosed on all four sides, or the enclosed garden, with a well or spring, should resemble this world. The house is the sanctuary of the family, and the realm of the wife, where the husband is no more than a guest. Furthermore, its square shape corresponds to the law of marriage in Islam, which permits a man to marry up to four women, provided that justice and fairness are maintained among them. The Islamic house is completely closed to the outside world, thus separating family life from common social life, and only above it does it open to the sky, which is reflected below, in the spring of the courtyard" (Burckhardt 1990, 148).

In the realm of poetry and literature, it is highly unlikely that someone would metaphorically compare a courtyard to paradise, although it is not impossible. The critical point here is that the term "house" has been used in many different ways throughout the history of architecture and urban planning in Iran (Soltanzadeh 2017). For example, in one instance, the word house is used in the verses of Abdi Beg Shirazi about the garden of Saadatabad in Qazvin

during the Safavid period, where a pavilion in the center of a garden is referred to as a house, and the surrounding space is called the garden: "In the middle of the garden, a happy state was created,

A square surface appeared,
 The vine rose, and its shadow fell on his treasure,
 In the center of it stood a royal house,
 A house fit for a king" (Abdibeig 1974, 36).

4.3. Heavenly Jerusalem and the Vikenthé Palace in India: According to Burckhardt's Explanation and Its Analysis

Burckhardt, in an article titled Heavenly Jerusalem (New Jerusalem) and the Vikenthé Palace, introduced a symbolic geometric-numerical structure divided into four parts and twelve sections, which exists, with minor differences, in both of these spaces. He writes about Heavenly Jerusalem, saying that the twelve gates of the city are positioned in the four directions according to the sacred texts: "Three gates to the east, three gates to the north, three gates to the south, and three gates to the west, with one of the twelve apostles depicted at the center of each gate of the Heavenly City. Above the gates and between the towers of the wall, angels are guarding" (Burckhardt 1991, 28).

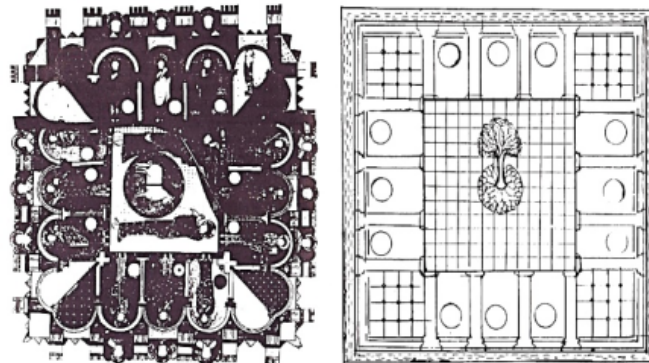


Fig. 1. A schematic Map of the Vikenthé Palace, the Design of the Heavenly Jerusalem (Burckhardt 1991)

The structures whose geometric design is quite similar to the plan of Heavenly Jerusalem are related to the mandala of the Vikenthé Palace or the heavenly abode of Vishnu in Hindu culture. One of the differences between these two is that in the center of the design of Heavenly Jerusalem, there is a lamb, while in the center of the design of the Vikenthé Palace, there is a tree (Burckhardt 1991, 30). This geometric-numerical structure has been used symbolically in several visual arts and architecture in some ancient civilizations, and was considered one of the most essential symbolic designs in Iranian architecture. Various types of four-part designs, such as inward and outward four-iwan structures, four-arched, four-column, four-way,

four-garden, four-minaret, four-dome, and similar plans, were prevalent in Iran, based on this design. It seems that no other civilization, except for Iran, has emphasized and focused as much on these four-part designs. Examples of these designs have existed in Iran from at least the Achaemenid period to the Qajar era (Soltanzadeh 2021).

Many numbers, such as 12, 5, 4, and 14, and shapes like squares and circles, also had symbolic meanings (Soltanzadeh 2016), which were almost universal. However, their significance might have slightly differed across various civilizations (Soltanzadeh 2015).

Burckhardt, in his book *Fās, the City of Islam*, revisits

the idea of the square shape of the house as it aligns with the Islamic marriage rule and writes: “The shape of most Arab houses, with a room on each of its four sides, corresponds to the Islamic marriage law, which allows a man to marry up to four women. Based on this, the man is obliged to provide a house for each of his wives and treat them equally in time and attention. The man is a guest in the home of his wives and must spend a night with each of them, unless they mutually agree to grant a special favor to him” (Burckhardt 2010, 132).

In another work, Burckhardt connects the number of major Sunni sects, the number of the Rightly Guided Caliphs, the four-iwan design, and the number of a man’s legal wives. He writes: “The fact that the official pillars of tradition and community are limited to four principles that Shi’a also have relates to Islamic law. In all levels of Islam, we find groups of these four pillars, which are connected to a central foundation. For example, the four Rightly Guided Caliphs, the true followers who represent the Prophet Muhammad (PBUH), or the four obligatory acts of prayer, fasting, zakat, and hajj, all of which are tied to a fifth act, which is testimony, and similarly, a Muslim man can have four wives. Returning to architecture and the floor plans of Arab and Iranian houses, they consist of four sections that open onto a central courtyard, which may also be the basis for the concept of the fourfold school” (Burckhardt 1986, 147).

4.4. Nader Ardalan’s View on the Central Courtyard and Garden and Its Analysis

Based on published reports from the International Conference of Architects, titled “Exploring the Possibility of Connecting Traditional Architecture with Modern Building Methods,” held in Isfahan in 1970, Nader Ardalan may be considered the only Iranian architect who presented a theory in his lecture at the conference. The texts of the speeches by other Iranian and foreign architects are available, and it seems that they were expressing their views on the topics discussed. However, Ardalan’s speech and subsequently the text of the book *The Sense of Unity* show that he was significantly influenced by the thoughts of a specific Western traditionalist movement founded by René Guénon, later followed by Frithjof Schuon and Titus Burckhardt.

It seems this traditionalist movement was widely introduced in Iran by Seyyed Hossein Nasr, and since 1967, numerous articles in this approach were translated and published during the Shiraz Arts Festival. This view emphasizes the symbolic aspects of art and architecture, and it seems that some of the data presented is overly general and untestable, especially from a historical perspective. For example, when René Guénon compiled his views in a doctoral dissertation and sent it to France for review, Father Silvan L. Louis did not accept it as a credible text, stating that Guénon had not given importance to

historical or empirical evidence (Aldomedeo 2010).

When considering some of the sections of Ardalan’s speech at the conference, it appears that some of his ideas are more personal interpretations. For instance, he states: “The wall is the symbol and metaphor of the third, transcendental dimension of space, where the vertical direction corresponds to the axis of existence. The wall, synonymous with humans, becomes the place where the spirit of the space is embodied. The wall is the foundation of the arch, and its surface should possess qualities of lightness and movement, opposing the material nature of the wall, which carries the weight towards the center of the earth” (Ardalan 1960, 40). His views on cities are also thought-provoking: “The city, in terms of its overall shape and form, imitates the body of a human being, which, in reverse analogy, connects to the greater universe” (Ardalan 1960, 40). He further writes about courtyards in a city: “Open courtyards can be considered the lungs of the city, allowing it to breathe. This vital form reflects the religious, political, economic, and social unity of the traditional society” (Ardalan 1960, 40). Regarding the last statement, the question arises: how can the spatial composition of courtyards indicate the religious, political, economic, and social unity of a traditional society? Were cities with introverted urban fabrics, where the relationship between open and built spaces was somewhat similar, also the same in terms of religious, political, and social unity? For example, Yazd and other cities with dense, introverted urban fabrics experienced various political, social, spiritual, and economic changes between the 10th and 13th centuries. At the same time, their essential architectural characteristics remained essentially constant.

In the second part of *The Sense of Unity*, titled “The Concept of Traditional Forms,” Nader Ardalan refers to eight architectural elements of gardens, palaces, porticos, gates, rooms, minarets, domes, and four-iwans. He discusses the courtyard, which he heavily emphasized in his 1970 speech, and in the book *The Sense of Unity*, refers to it as a subset of the garden. This could be because Titus Burckhardt, even when writing about the courtyards of houses, almost equated the concept of a courtyard with a garden (Burckhardt 1991, 148). He also considered the courtyards of mosques to be like gardens (Burckhardt 1991, 147).

4.5. Definition of Garden: According to Ardalan and Its Analysis

Nader Ardalan defines the garden as follows: “The architectural concept of the garden reflects the sense of place or locality, as the garden is a defined space that encapsulates the entire cosmos within its frame. This concept, which nurtures order and harmony, can be perceived through numbers, geometry, color, and material, while also directing the intellect toward the essence, the inner realm hidden within the positive space. The garden, as a manifestation

of the centrifugal form of the great universe, or the outer realm, and the courtyard, as a manifestation of the centripetal form of the small universe or the inner

realm, represent complementary aspects of space that complete each other” (Ardalan 2001, 68).

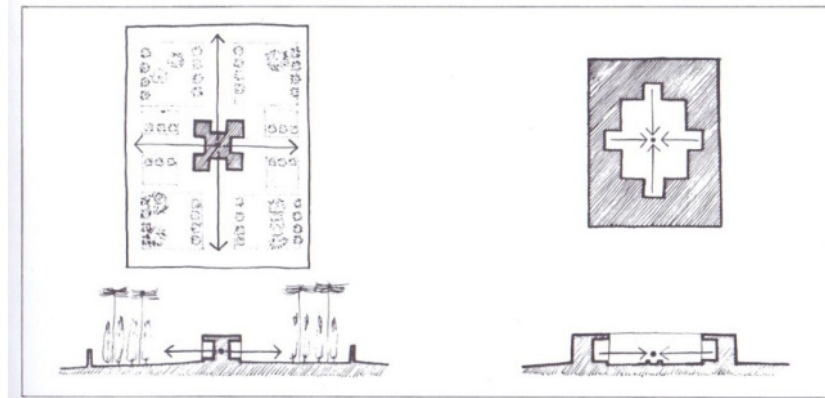


Fig. 2. School and Garden Design Idea from Nader Ardalan's Perspective (Ardalan 2001)

4.6. Analysis and Examination of the Design Idea of the Management Center

On page 68 of the book *The Sense of Unity*, two schematic diagrams related to the concepts of garden and courtyard are presented. The first schematic pertains to a courtyard, and, as noted in Table 4 on the same page, represents the overall form of a school, with Nimaavar, Isfahan, being used as an example. The second schematic pertains to the Fin Garden, where an enclosed area is depicted with only a pavilion (kushk) placed at its center in a specific design. It appears that, as a general rule, no enclosed

garden was constructed with only a single pavilion inside it. The Fin Garden, in contrast, consisted of four types of spaces: first, the pavilion (kushk); second, the private quarters (andaruni), designated for family life; third, the entrance building (sadr), which, in large and luxurious gardens, was typically considered a critical space; and fourth, service areas, such as the kitchen, bathhouse, stable, and similar facilities. The number and type of service spaces were determined based on the size, function, and status of the garden's residents, as well as their household members and other contextual conditions.

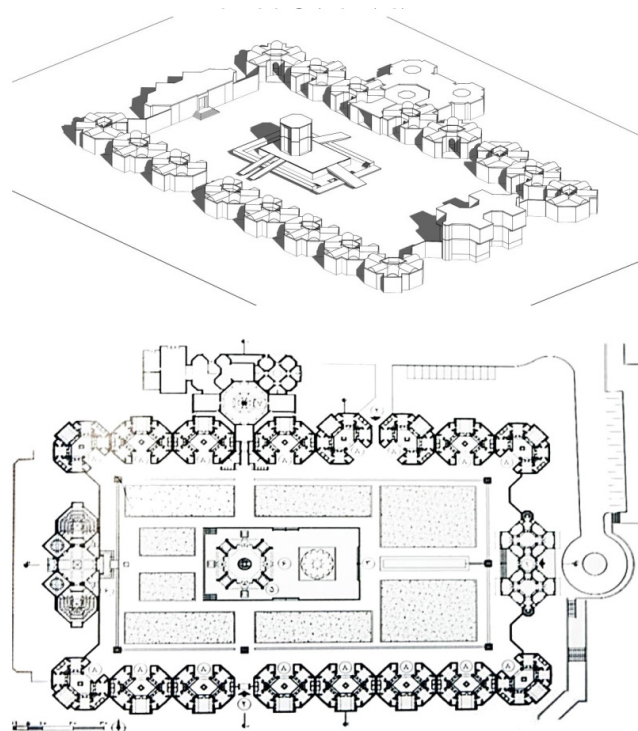


Fig. 3. Perspective and Plan of the Management Center (Naghsh Jahan Consultant)

It seems that the design idea for the Management Center was derived from the combination of the two schematic plans above, as the rooms or chambers of the students or clerics were placed around the courtyard, an arrangement that was typically found in seminaries in the past, suited to the conditions and the way students lived and studied. In the center of the Management Center complex, a space resembling a pavilion was designed for public functions. The issue with the location of this space seems to be that it limits the views and perspectives within the space, which is why no seminary or even any traditional house was ever built with a large building in the center of the courtyard that would obstruct the view. If a pavilion was placed in the center of large courtyards, it was because it was considered a ceremonial, leisure space, designed to be expansive and not obstruct the views of other spaces. Especially considering that traditionally, the inner section of a house or garden, before the Qajar period, would have one or more inner courtyards to ensure the privacy of the family, especially when there were non-relative guests in the garden. However, in extensive governmental-residential gardens, such as the Naghsh-e Jahan complex in Isfahan, the Safavid garden collections in Qazvin, or the Tehran Citadel and the Shiraz Citadel from the Zand period, multiple pavilions might have been built in parts of the extensive gardens for ceremonial activities. Some similarities between the designs of seminaries and houses, especially the presence of large, green, and lush courtyards, stemmed from the fact that old seminaries, in addition to their educational function, also served as residences for students. In other words, they were a type of boarding school, and like a house, a good green space was necessary for living. In contrast, modern schools or universities are considered purely educational institutions. Of course, by blending or combining concepts, ideas, or elements related to past architecture, solutions can sometimes be found for present-day issues. The critique of the design of the Management Center is not a critique of the design process itself but rather

a recognition that sometimes abstract interpretations can lead to solutions that, despite their visual beauty, may lack the necessary functionality and utility, particularly for buildings with practical purposes. For commemorative, fantasy, or other buildings where their visual or formal aspects take precedence over their functionality, the situation is different. Additionally, critiquing one or more features of a building does not deny its positive aspects or the esteemed position of the architect.

4.7. Kamran Diba's Definition of Central Courtyard and Square and Its Analysis

It seems that Kamran Diba's definition of the courtyard and the space of the square somewhat deviates from reality, and it is likely that this definition and perspective influenced his designs. Furthermore, the influence of certain famous and beloved architects of the 40s and 50s, such as Louis Kahn, on the formation of his works cannot be overlooked.

Kamran Diba has provided a specific definition of the courtyard and women's veiling through several sketches on a page of his book. This seems to be worth examining from several angles (Diba 2012, 14). First, he equates a woman's veiling with the central courtyard and the hierarchical entry into the courtyard. In contrast, central courtyards in homes were built due to climatic conditions, and only in exceptional cases were they formed by cultural factors. In certain non-Muslim lands, especially in hot and dry regions, central courtyards were prevalent. In contrast, in temperate and humid areas of Iran and other similar regions in the Islamic world, central courtyards were generally not a feature of homes. Similarly, one could argue that despite the typical outward-facing homes in areas such as Gilan, Mazandaran, and Azerbaijan, the veiling of women in these regions remained adapted to their conditions, and there was generally no significant difference in the way women were veiled within the home, garden, or fields.

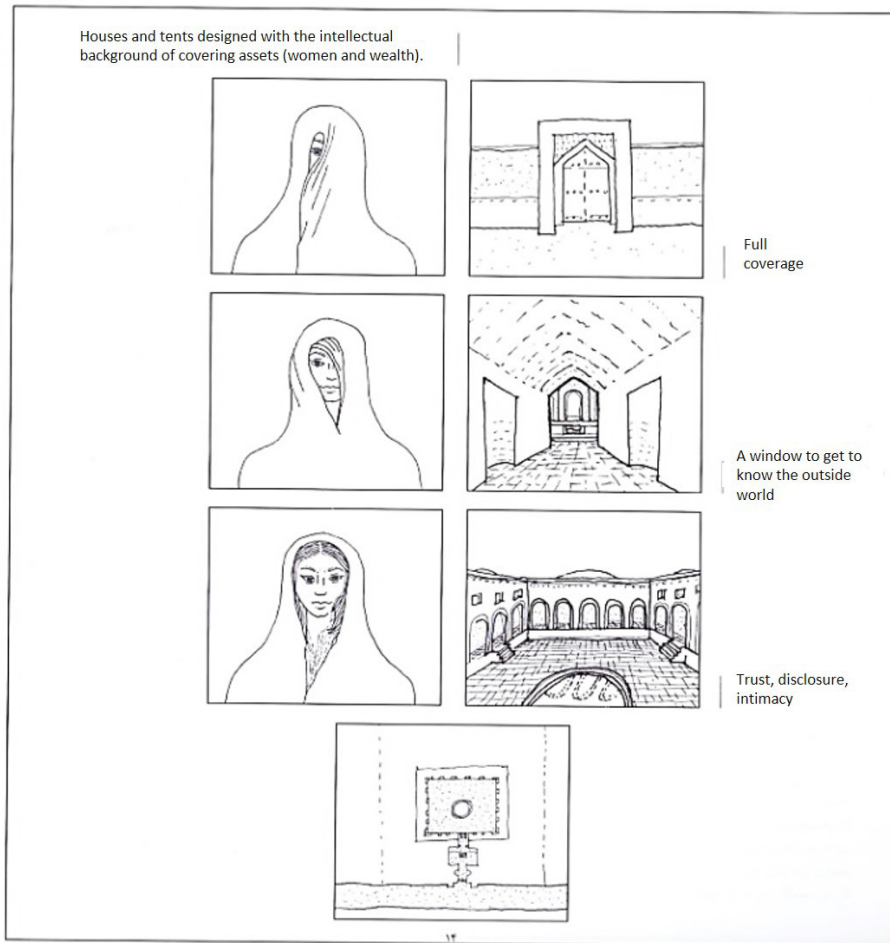


Fig. 4. Diagram Illustrating the Relationship Between Entrance, Corridor, and Central Courtyard with Women's Veiling, According to Kamran Diba (Diba 2012)

Second, it should be noted that in less than one percent of houses with a central courtyard in Iran, the entrance path from the door to the courtyard was direct. Furthermore, if a non-relative guest were present in the courtyard, the lady of the house would maintain her full veil, and if there were no non-relatives in the house, she would not wear a chador.

Perhaps more important than how the relationship between veiling and the house's architecture is interpreted is the fact that in this book, the people of ancient Iran are portrayed as having an antisocial spirit, with no attention paid to the insecurity and despotism in the central and southern regions of the country, and only the kings are credited with caring about urban design. The text reads: "In some cases, a landowner would allocate at least the necessary space to create public pathways to houses. These historical patterns of urban and social development in Iran are frequently observed. The architecture of public spaces and streets receives the least attention. Only the gates of houses leave an architectural symbolic influence on the often narrow, winding, maze-like streets. This shows how individualistic, family-centered, and

antisocial Iranian culture is. Only kings sometimes cared about urban design. The best example of this situation is the city of Isfahan, where order and geometry have been applied in public spaces, creating a sense of public and civil responsibility." (Diba 2012, 15)

It seems that the issue of social insecurity, especially for women in historical Iran until the Qajar period, and its role in their lack of active participation in social activities, has been overlooked. Moreover, the role of the organic urban fabric and narrow alleys in ensuring the security of residents in many cities has not been taken into account. What is more unjustified is that the people have been labeled as antisocial. At the same time, it suffices to refer to the documents related to mourning months or festivals in which almost all the people participated in historical cities, to see that they were not antisocial. Instead, the lack of security in ordinary times was one of the causes of women's absence from social activities.

Regarding the creation of squares like Naghsh Jahan in Isfahan, which is attributed to the kings' care, it should be pointed out that some kings or powerful

rulers in large cities built a governmental square (or governmental-public) for holding military parades, ceremonies, and other gatherings under the government's supervision to display their authority. This phenomenon was not due to altruism but was a social-governmental necessity, and historical documents show that this practice existed from at

least the Achaemenid period until the end of the Qajar period (Soltanzadeh 2021).

It seems that Diba's focus on the central courtyard as a space for "Iranianizing" contemporary designs led to the use of four courtyards in various shapes along one axis in the design of the Faculty of Humanities at the University of Isfahan.

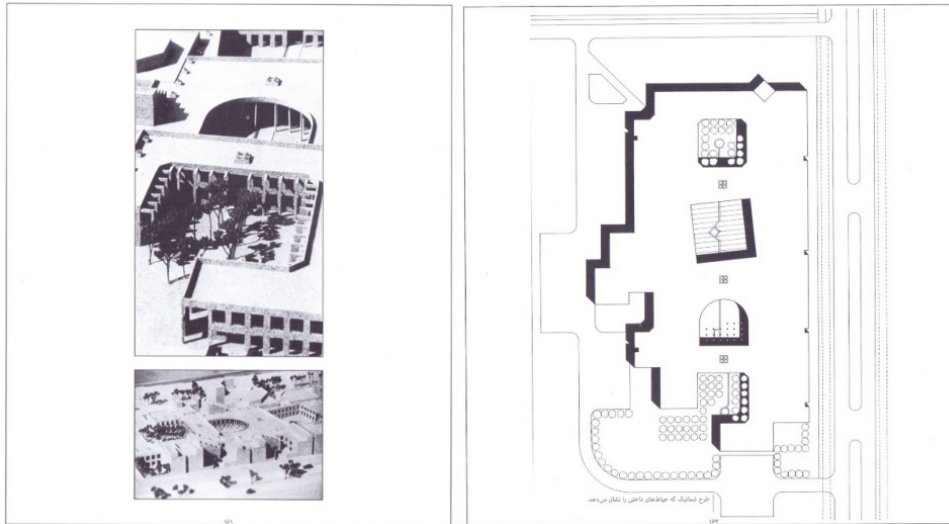


Fig. 5. Part of the Perspective and Roof Plan of the Faculty of Humanities at the University of Isfahan (Diba, 2012)

5. SUMMARY AND ANALYSIS

It is first necessary to note that both courtyards and gardens have existed in various forms. Based on the texts and examples presented by the architects discussed, this study focuses on central courtyards and a type of garden with a pavilion (kushk) in flat environments.

For summarizing and analyzing the findings, courtyards and gardens can be considered from conceptual, spatial, and functional dimensions. The conceptual dimension of the courtyard can be examined through two components: independence and green space. An important point is that a courtyard, by its historical and local definition, cannot exist as an independent space and is always dependent on a building, such as the courtyard of a house, a school, or a caravanserai. In other words, the courtyard is a dependent element or part of a building and cannot have an independent life.

The green space component also shows that greenery has not always been an integral part of a courtyard. Courtyards have existed without green spaces, such as in many grand mosques and some desert caravanserais, whereas this component is different for gardens. Gardens, conceptually, are independent architectural spaces, and all gardens must include green space and trees. A garden without greenery does not exist.

The spatial dimension of courtyards and gardens can be evaluated with two components: boundaries and dimensions, and the distribution of empty and filled spaces. Both courtyards and gardens share similarities in terms of boundaries and dimensions, usually having defined limits. However, they differ in the distribution of empty and filled spaces: emptiness is characteristic of a courtyard, while a garden typically combines empty spaces, filled areas, or green spaces. The green or empty areas usually exceed the built or filled areas.

In the functional dimension, two components can be considered: primary function and climatic function. The primary function of a courtyard is usually to provide access between surrounding spaces and the entrance path, with other functions depending on the building to which it belongs. Gardens with a pavilion are generally used for residential or ceremonial purposes, as isolated pavilions in historic gardens were typically used for formal or reception activities. The climatic component is somewhat similar for both courtyards and gardens, as both were used to improve climatic conditions at the scale of a building or complex. However, the climatic quality, view, and landscape of gardens are generally superior, more expansive, and more diverse than courtyards.

Thus, examining courtyards and gardens from different dimensions shows that they are distinct concepts, and combining them is an abstraction that

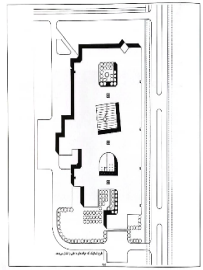

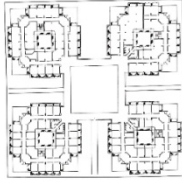


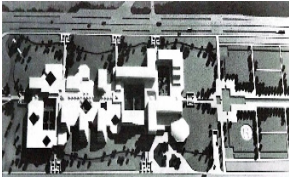
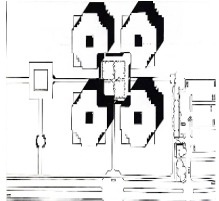
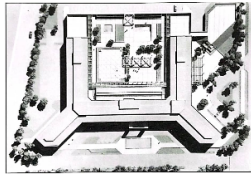
does not yield universally applicable conclusions. The importance of this analysis can be considered on at least two levels: first, to understand how some contemporary architectural works in Iran have evolved, and second, to guide architects in their relationship with historical architecture. Form-based inspiration should be applied carefully, respecting the conceptual, functional, and spatial dimensions of various building types.

6. RESULTS

The research results indicate that first, the extreme importance given to courtyards has led to their use in creating identity in contemporary educational spaces. Second, the perception and understanding of the two prominent architects studied—Kamran Diba and Nader Ardalan—significantly influenced how they used the ideas of central courtyards and gardens in designing two educational centers: the Faculty of Humanities at the University of Isfahan and the Harvard Management Center (Imam Sadiq University). Based on extensive global and Iranian experiences, most contemporary educational spaces have traditionally been designed with linear

circulation to optimize functionality. In Iran, some contemporary architects used various linear layouts for educational spaces to improve access and lighting. For instance, in Iranshahr School in Yazd, based on some notes, inspired by André Godard (and possibly Maxime Siroux), a U-shaped courtyard was created to form a semi-enclosed courtyard while maintaining linear spatial organization for functionality and efficiency. Similar patterns can be seen in the Teacher Training Center designed by Nikolai Markov. In other words, the conventional method for designing contemporary academic and educational spaces with linear plans can be evaluated and validated against these results. Therefore, according to the notes of the two architects studied, it can be concluded that their understanding, interpretation, and definition of courtyards and gardens, as well as their application in educational centers, influenced the resulting designs. These designs, however, are not entirely optimal functionally, especially regarding spatial access and views. In this set, the semi-enclosed courtyard has been relatively well applied in the Intercontinental Hotel design.

Table 1. Examples of Designs Featuring Central Courtyards

			
(1) University of Isfahan	(3) School in Shushtar	(5) Plan of the Jundishapur University Administration Building	(7) Intercontinental Hotel
			
(2) Bird's eye view from the University of Isfahan	(4) Perspective of the Isfahan Governorship and Municipality Plan	(6) Jundishapur University Administration Building	(8) Intercontinental Hotel

Designs that use a central courtyard.

1-2 Faculty of Humanities, University of Isfahan, 3-Schools in Shushtar, 4-Governor and Municipality of Isfahan, 5-Plan and Perspective of the Administration Building of Jundishapur University of Ahvaz, 7-8-Plan of the Intercontinental Hotel in Isfahan (Diba 2012)

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CONFLICT OF INTEREST

The authors have no conflicts of interest to declare.

MORAL APPROVAL

The authors commit to observe all the ethical principles of the publication of the scientific work based on the ethical principles of COPE. In case of any violation of the ethical principles, even after the publication of the article, they give the journal the right to delete the article and follow up on the matter.

PARTICIPATION PERCENTAGE

The authors state that they have directly participated in the stages of conducting research and writing the article.

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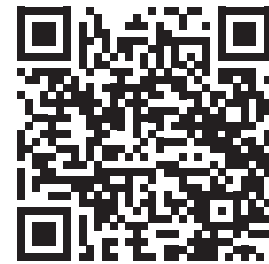
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