

Re-Discovering the Original Form and Function of Shīrāz Toopkhāneh Square by Historical Documents and Existing Evidence

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ABSTRACT: The Arg or Toopkhāneh Square was an essential part of Karim Khān's citadel complex in his new capital, Shīrāz, Iran, in the mid-18th century, which was destroyed in the early 1920s. However, the studies conducted regarding its form and functions have not been accurate enough, and their hypotheses are inconsistent with reality. This paper calls into question previous studies and takes a new look at the design, geometry, and spatial relations of the Square in the days of the Zand dynasty (1751–1794) and studies the changes of the Square in the Qājār (1789–1925) and Pahlavi (1925–1979) eras. This study analyzed European travelogues and historical photographs with little existing evidence by applying a historical research method. The study revealed that the Arg, later named Toopkhāneh Square, was rectangular, about 130 by 185 meters, with an east-west orientation. The simple brick arches with minimal decorations on each side of the Square created an enclosed space for displaying cannons, announcing official orders, and executing judicial rulings or ceremonies. The Arg square and its adjacent buildings should be considered a governmental-military open space with various internal relations. The architecture of the main gate and the Naqqāra Khāneh mansion were the prominent features of this Square, and its location has always been questionable. The previous studies did not have a correct understanding of the location of the Naqqāra Khāneh, the number of entrances to the Square, the height of the walls of the Square, as well as its layout. Finally, it is crucial to notice that The design of this Square differs from the example of Naqsh-e Jahan Square in Safavid Isfahan and Toopkhāneh Square in Qājār Tehran.

Keywords: Arg, Historical Square, Karim Khān, Photographs, Toopkhāneh Square

INTRODUCTION

In Persian, Toopkhāneh means cannon house, and the Square in which the cannons were placed is known as "Meydān-e Toopkhāneh." The prevalence of such a term in the Iranian city dates back to the late eighteenth and early nineteenth centuries in the Qājār time (1789–1925). Before this period, the cannon symbolized military power, domination of enemies, and government authority, as the first cannons resulted from wars plundered after victory over the Portuguese in the Safavid dynasty (1501–1736). Not all cities in Iran had a square with this name, but only large and politically high-ranked towns important to the government achieved this honor. Since many squares in the historical cities of Iran often existed before the mentioned period, in many cases, they could be transformed into a square with a formal and official function called Toopkhāneh, a proper place as an interface of

the citizens and the government.

Shīrāz, one of the oldest cities in southern Iran, became the concentration of wealth and civil works during the Zand era (1751–1794) and, as the capital of Iran and the center of political power, underwent the most changes before the nineteenth century. Zand dynasty was a short kingdom (about five decades) but crucial in Iran because it was the intermediary between the powerful Safavid and the Qājār Kingdoms; one is a symbol of tradition, and the other is an attempt to come to terms with pre-modernity. It was during the Zand period that the two squares named "Arg (or later called Toopkhāneh)" and "Mashq (field for military training)" were built as part of Karim Khān's development plan in a complex now called the Zandieh. This dreamy work of the founder of the Zand dynasty includes a citadel (Arg), a court (Divānkhāneh), a royal garden (Nazar garden), a mosque

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(Vakil Mosque), a bazaar (Vakil Bazaar), a public bath (Vakil Bath), and three water reservoirs, and many private houses. This complex was a complicated and lesser-known structure; essential parts of its spatial configuration were the two squares utterly demolished by the 1930s.

There is already ambiguity among experts about how to reorganize it physically and spatially. In the last two decades, many efforts have been made by the municipality or other governmental institutes to restructure this complex. Nevertheless, no one has been able to meet this challenge. Another problem is the lack of reliable data and documents in Zand dynasty studies. There is little information about these squares. Historical photographs are limited to a few certain angles of the Toopkhāneh square, and the memoirs of the local people are practically inaccessible due to the long time lag between the dates of the destruction of the Square in the Rezā Shāh Pahlavi era (1925-1941). On the other hand, the lack of urban archeological excavations and the numerous physical encroachments in the area have obliterated or rendered any reasoned survey document inaccessible. All of these are part of the challenges of the current study.

The main objective of this study is to retrieve the original architecture, geometry, and spatial relationships of Shīrāz Toopkhāneh Square. Therefore, it examines, critiques, and analyzes the existing documents and hypotheses about this Square. Then, regarding the evidence and inferences, it inspects the developments of the Square from formation to degeneration and finally presents the original design of this Square in the Zand era. With these issues in mind, the hypothesis of this research is based on the fact that Toopkhāneh Square of Shīrāz, unlike Naqsh-e Jahan Square in Isfahan or Toopkhāneh Square in Tehran, has been designed and built according to the long tradition of making squares within the governmental enormous citadels named Arg in Persian. So, it was not essentially a public square. Moreover, the hypothesis that the Shīrāz Toopkhāneh Square was created based on Naqsh-e Jahan Square has no basis. This issue could be traced back to the major Iranian cities, which significantly affected the final decision about the shape of the Square. Accordingly, the following questions can come to mind:

(a) What is the exact layout and design of the Toopkhāneh Square in Shīrāz during the Zand dynasty (including the Square facades and access to the buildings around it)?

(b) What were the functions of the Square, and how did they change over time?

(c) What had been the changes of this Square from formation to destruction based on the available visual data? Are there any reliable historical documents or data that can be used to reconstruct the Square accurately?

Research Background

Studies on Toopkhāneh squares in Iranian cities are limited to a few cases. The first was a book entitled "Tehran's Toopkhāneh Square: A Look at the Course of Continuity and Evolution in Urban Spaces" by [Mohammadzadeh Mehr \(2003\)](#). He collects many maps of old Tehran and represents Toopkhāneh Square's design and geometry by comparing them with historic photographs. Another effort is the research of [Najafi \(2013\)](#) entitled "Dar-al-khelefeh Naseri's Toopkhāneh Square: Iranian Thought and Others Souvenir." By examining texts and studying

historical travelogues, she illustrates social developments, influential people, and qualitative characteristics of Tehran Toopkhāneh Square in the Nāser-al-Din Shāh period (1848-1896). Another significant research is the maps and three-dimensional drawings that [Tavassoli and Bonyadi \(1992\)](#) have suggested and published in a book named "Designing the Urban Space." Although they have dealt with the subject of open space in Iranian architecture and cities in that book, a small part of their book is dedicated to the Shīrāz Toopkhāneh Square. This book and other writings of the same authors are the only efforts made to represent this Square in Shīrāz. This paper calls into question Tavassoli and Bonyadi's conclusions about the Square and believes they did not consider facts and documents critically and carefully.

Some studies have also been prepared about the Shīrāz Toopkhāneh Square, except for two published in a journal; the rest were presented at conferences. [Moosavi & Sharifi \(2021\)](#) - a journal paper - examine factors affecting Shīrāz Toopkhāneh square evolution. They have based their work on the same maps and three dimensions proposed by [Tavassoli and Bonyadi \(1992\)](#) and claim that this Square was formed to create an urban square according to its access. While describing the Square, they could not correctly refer to the actual geometry of the field and its proper role. [Ahmadi and Hekmatnia \(2017\)](#) claim to recognize the Shīrāz Toopkhāneh Square in the title of their conference paper; in practice, they are content with the same conventional descriptions and have mainly described the buildings around the Square from the Zand to Pahlavi period. Another article - a journal paper - by [Ghorbani and Hikmatnia \(2022\)](#), "Government buildings of the Zandieh period in Shīrāz and their use until the Pahlavi period," is the most recent research that has been done about the Zandieh complex. In addition to the detailed description of the buildings around the Toopkhāneh Square, the authors have also proposed an arrangement of the buildings around the square. Although they have not discussed the details of the square and its architecture, they have ideas about the location of the Naqqāra Khāneh and the length of the square, which have been discussed in this place. These three articles are the only examples that pay attention to the physical aspects of the Square, at least in the article's title. Other articles deal with social behavior and interactions within the current field of the demolished Square. [Khademi et al. \(2018\)](#), in her master's thesis, has discussed the redesign of the Shīrāz Toopkhāneh field based on the current social behavior of the citizens. The results of her studies, published in a conference ([Khademi et al., 2018](#)), are examples of studies conducted to promote social interactions in an urban environment. The same concerns in a paper by [Shibani and Khosravi \(2015\)](#) have made social interactions in this area the subject of research. The study of [Ashari and Qarai \(2013\)](#) -the other example- was written to revitalize the Toopkhāneh field from the point of view of developing a sustainable urban space.

Referring to historical sources to review documents or old photos in none of these articles is analytical and critical, and none of them could systematically compare the documents in line with the deep analysis of the data. Therefore, in the current research, comprehensively and purposefully, with a critical-analytical view, historical and visual data have been put together to criticize previous hypotheses regarding the shape of the field and its actual function. In this sense, the current study

is new and has unique results.

MATERIALS AND METHODS

This brief monograph is a historical study in coordination with an architectural point of view and uses determinative, contextual, and inferential evidence (Groat & Wang, 2013). Documents and evidence used in this study can be classified into four categories: (a) the visual historical sources regarding the main aspects of the Square (historical photographs). (b) Historical books, texts, and travelogues (The information contained in these sources is, in some cases, general and lacks sufficient detail for such research). (c) Historical maps (The existing historical maps of the city, which date back to the Qājār and Pahlavi period, is a remarkable document that has been the source of many doubts and hypotheses of this study). (d) Infield surveys and site visits have been performed to test the hypotheses, match the direction and angle of the photographs, and take some measurements of some existing dimensions of the surrounding buildings to fit the pictures to the actual scale and position.

Shīrāz Toopkhāneh square in travelogues, historical maps, and photos

The data from the Shīrāz Toopkhāneh square in travelogues, historical photographs, and old maps can be divided into three periods. These periods are divided based on the Zand, Qājār, and Pahlavi dynasties. This division also shows essential changes in the Square to a large extent.

Origin: the Square in front of the Arg (Zand time)

The main unique historiography of the Zand time (1751–1794), "Tārīkh-i gīrī gushā: dar tārīkh-i khāndān-i Zand" by Mirzā Muhammad Sādiq Mūsavī Nāmī Isfahānī, (1804/1984), contained information about the lands of the northwestern part of Shīrāz, its fortified wall, and the Arg (citadel), but contrary to our belief, "the Square in front of the Arg" is not named even during his reports about the political or ceremonial events around the area, such as warfare or political conflicts of that time. Carsten Niebuhr (1733-1815), a German cartographer and explorer who traveled to Shīrāz in 1765, describes the landscape of Shīrāz in a fertile plain, barrow fortified wall which covers about one-third of the city, and the rest is either destroyed or wheat field. His description of the Biglerbiggie Palace in Shīrāz (dedicated to Sadeq Khān-e Zand, the Karim Khān's brother), which is probably the mansion of the Divānkhāneh (court) at that time, reveals part of the geometry of the Zandieh complex. His writings state that the palace was in the middle of a large square where barley and wheat were planted (Niebuhr, 1792), probably the same place as the Toopkhāneh Square. Niebuhr's observations reveal that the construction of the Square was in its early stages in those years or had not yet taken on a recognizable posture. Planting barley and wheat in the Square is a point that mainly refutes the existing conjectures that the Zandieh complex was built on Safavid ruins. This part of the city may have been used as a garden or agricultural reserve land, as some part of it was during the Qājār period.

In the time of Jafar Khān Zand (1751-1779), the phrase "the square in front of the Arg" is mentioned for the first time in the European travelogues. According to William Franklin (1730-1813), the Arg was located near the gate of the King's Garden, and the city's ruler resided there. In addition, a band of musicians, including Dohol, Naqqāra

(Middle Eastern drums with a rounded back), and drummers, was stationed on a platform in the Square in front of the Arg. Furthermore, some old and rusty cannons were used in one part of the Square somewhere in front of the Arg (Amiri, 1990). Therefore, the presence of the artillery in this Square can be considered definite in the period of Zand, which happened before the transformation of Tehran's Arg Square into Toopkhāneh Square. Such a thing can be a better and closer idea to building a Toopkhāneh Square in Qājār Tehran than Naqsh-e Jahan Square in Isfahan. Apart from these, no other significant and valid information is available in the travelogues of the Zand time. Therefore, the only available way to know the Toopkhāneh Square of Shīrāz during the era of Zand is to examine the documents of the Qājār period.

Transformation: from Arg to Toopkhāneh square (Qājār time)

The most valuable historical map of the Shīrāz during the Qājār time (during the reign of Nāser-al-Din Shāh (1848-1896)) was surveyed by Capt. Proskuryakov. He was in the Russian Surveyor Corps with Torganovich and was an officer of the same unit under the command of Cherikov in 1850 (Mehryar et al., 1999). According to his map (Fig. 1), the Square is located in the northern corner of the city and is close to the city's fortified wall. The topological position of the Square proves that this Square, unlike the examples in the history of other cities of Iran, did not have a prominent social center and urban function in terms of the gathering space of citizens. It should also be borne in mind that this Square, unlike the example of Isfahan Naqsh-e Jahan, has not made it possible to expand and re-zone the city for new urban development because if this were to happen, the city would be too close to the existing fortified wall and the river at the north side of it as a natural barrier. The fact that Shīrāz Toopkhāneh Square does not have much of an urban role and cannot be used as a place for recreation or the daily gathering of people plays a vital role in the recognition of the Zandiye complex.

The Arg (citadel) is located in the corner of the city's fortifications according to the usual habitude, and the two squares around it are more like squares for governmental-military functions, which can be seen in other historical examples of this period. Nonetheless, what is unique in this complex is the lack of connection of the eastern side of the Square to the northern part of the Vakil Bazaar, which is separated by a barracks and a square called Meydān-e Sarāi, which has been lost and no information is available about it (Meydān-e Sarāi was probably a place for the court soldiers to rest. The sub-name of this building is mentioned Qeshlaq in the map, which means winter quarters).

The description of the Scottish traveler Sir Robert Ker Porter (1821) from Toopkhāneh Square (1817-1820) is vital among foreign travelers. He visited the Square during the time of Hossein Ali Mirza Farmanfarma and noted: After leaving the big gate of the Arg [...], we enter a square where a row of cannons, Russian soldiers, and officers run it. This quotation shows that the presence of the cannons in this Square continued during Fath-Ali Shāh Qājār (1797-1834), but Ker Porter does not call this square Toopkhāneh. Evidence shows that this name was used to name urban squares during the reign of Nāser-al-Din Shāh (1849-1896).

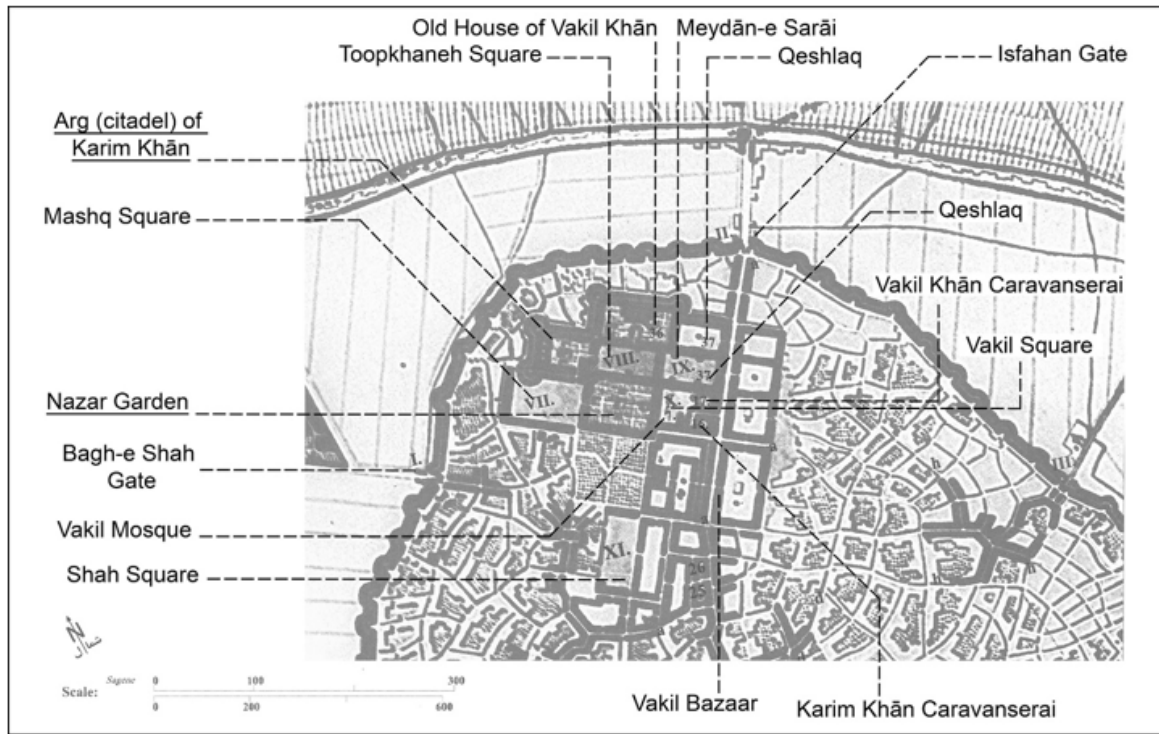


Fig. 1: The Russian Corps map from the Toopkhāneh Square and the surrounding buildings (The items underlined are not listed in the main map) (Mehryar et al., 1999, 229)

The public access to the Arg Square was from (a) the northern portal of the Vakil Bazaar and (b) the gate in front of the Vakil Mosque. The first way can be seen in the writings of Nobuyoshi Furukawa, the first envoy of the Japanese government during the Qājār time, who traveled to Shīrāz in the years 1880-81, about 30 years after the surveying of the city by the Russian corps. It was during the time of Motamed al-Dawlah Farhad Mirza (uncle of Nāser-al-Din Shāh). Furukawa (1891/2005) describes the way: We passed the middle of the bazaar and arrived in front of the citadel. He does not explicitly refer to the Square.

Nevertheless, in the descriptions of George Nathaniel Curzon in 1889, there is an interesting description of the abandoned and ruined area of the main Square of the palace, which probably meant the Square in front of the Arg. According to him, there were several cannons in this area. He refers to the arched gate that opens from the Square towards the garden and its pond, which is undoubtedly the view of the Nazar garden (Curzon, 1892). Describing the Toopkhāneh Square and the quality of the buildings around it, he writes: On the north side of the Square, there is a large mansion that The Indo-European Telegraph Company currently occupies, but in the past, it was the court [Divānkhāneh] and the place of Karim Khān Elsewhere, Curzon writes: There is a way from the Square to the Vakil Bazaar (Curzon, 1892), but he does not specify the properties of this access. This way was probably through the Naqqāra Khāneh.

The last available historical data from the Qājār time is the writings of Edmund Ironside (1880-1959). He points to a pathway leading to the city's Grand Mosque on the other side of the court [Vakil Mosque].

The word pathway indicates that the access space to the Vakil Mosque has lost its former quality, and the Square may have been eroding in the same areas. He also mentions several Spanish or Portuguese cannons and the two 24-pound rusted and perforated English cannons in the "large square in front of the Arg." He also did not use the title of Toopkhāneh for the Square (Ironside, 1972). Historic photographs from this period also show a kind of severe erosion in the Square, especially on the west side in front of the Arg.

Afsar (1974) believes that the city's structure in the Qājār period is not much different from the Zand time and only changes due to natural disasters (like earthquakes or Khoshk river flood) and the construction of some new buildings changed the city layout slightly. Consequently, it can be imagined that the Zandieh complex and its squares in the Qājār period were a kind of closed nested structure surrounded by walls and ditches with little interference in the original design. The Toopkhāneh Square has been transformed mostly via construction in empty spaces in response to new spatial needs and physical relations of that period.

These new features evoke a kind of defense system in organizing the Zandieh Complex and decades after. In the writings of travelers, the connection between Isfahan Gate (on the north side) and the Toopkhāneh Square, by the Vakil Bazaar, has been described, so the bazaar has played a kind of barrier for quick access to the Square from outside the city. Likewise, Nazar Garden, the Mashq Square, the Vakil Mosque, and its bath on the south side of the Zandieh complex have made it impossible to easily access the city's south. The distance of the Arg from the fortifications of the town and the ditch of the Arg are also

obstacles that increased its security. The only easy access to the Arg and the complex is the gate of Bāgh-e Shāh (the King Garden), which also requires numerous narrow passages.

To name the square, "Toopkhāneh" is primarily used in the photographs of the Nāser-al-Din Shāh and the Mozaffar-al-Din Shāh time. These photographs are mostly limited to the northern and western sides of Toopkhāneh Square; in Fig. 2-A, the ornamentals of the western side of the Square can be seen from the Square's entrance to

its northern corner, probably related to the period of Mozaffar-al-Din Shāh (1896-1907). In the left corner of the image, part of the roof of the Ayeneh (Mirror) Mansion and the Arg can be seen. Opposite the arches on the west side of the Square, there are tree-lined margins with metal fences. Rows of cannons can also be seen in the photo. Fig. 2-b shows troops in the Toopkhāneh Square during the rule of Ala al-Dawla (local governor) in 1903. This image shows a small part of the square's western side and a part of the south side adjacent to the Nazar

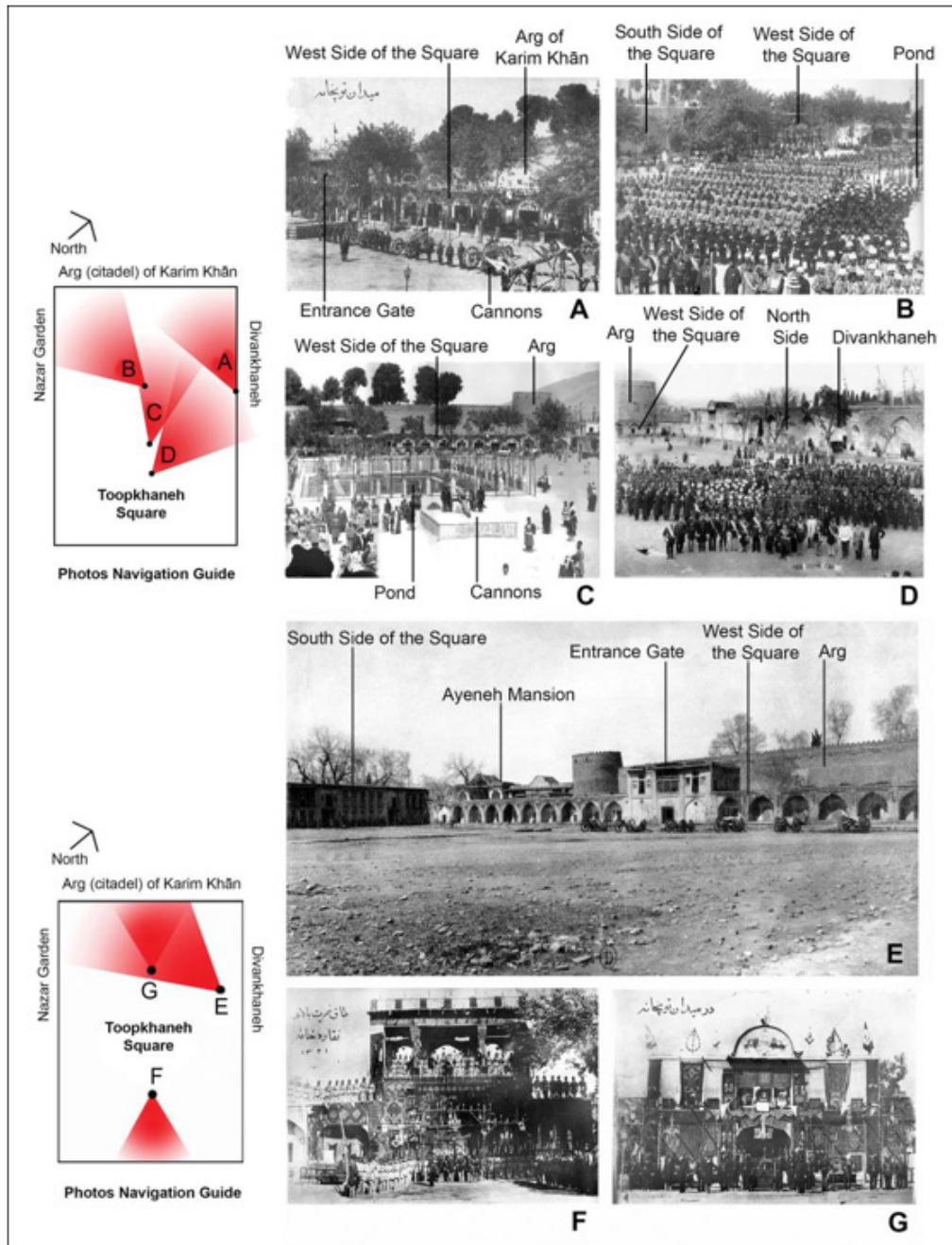


Fig. 2: The Shirāz Toopkhāneh Square during the Qājār time (Sane, 1990; 2003; 2011)

Garden. The height of the Nazar Garden is about 1.5 times the height of the one-story arches on the side adjacent to the Arg. A small part of the Arg corner tower can be seen on the right and top of the image, and in the middle are parts of the roof of the Ayeneh Mansion. Another point of interest is part of the fence and lighting on the east side, which is shown at the bottom of the photo and probably defines the subjective and mental boundary between the "Toopkhāneh square" and the other part, called the "Naqqāra Khāneh Square," a place to play the Naqqāra instrument in official and religious ceremonies. This separation without the physical divider seems more reasonable. The space in front of the Square's entrance, which is formed by war cannons, is the artillery section of the Square, and the part in front of the Naqqāra Khāneh can be called the Naqqāra Khāneh Square. Of course, [Ghorbani and Hekmatnia \(2022\)](#) believe that the Naqqāra Khāneh Square should be located behind the main gate and not in front of it. However, they have not provided an authentic document in this regard: the aerial photo they refer to is a part of the documentary film around 1933, related to Shoaeyeh School (Shāhpur), which was initially built in 1908, and it cannot be the Naqqāra Khāneh, and it seems to be the main entrance of the school.

[Fig. 2-c](#) shows the celebration of the first trip of Ala al-Dawla in Toopkhāneh Square in 1903. This image shows the west side of the Square, adjacent to the Arg. After 12 one-story arches, there is a two-story-high portal. Small parts of the northern side of the Square, adjacent to the Divānkhāneh, can also be seen in the photo. A fountain has been built inside the Square, the edge of which has been a flowerbed. Numerous cannonballs are also inside the Square. [Fig. 2-d](#) shows the Saham al-Dowle (governor of Fārs) in Toopkhāneh Square. In this photo, most of the Square's northern side can be seen near the Divānkhāneh. The connection of the Square with the outside was possible through a simple gate on the west side of the Square, which is an addendum. The two-story height arches of the north façade

have a recognizable rhythm, and there are five doorways or portals. In the right corner of this photo is the roof of the Divānkhāneh vestibule behind the portal. Its portal has Muqarnas, and simple brick decorations have been used in the surrounding arches' gussets.

In [Fig. 2-e](#) (the western side of the Toopkhāneh Square in 1891), the initial parts of the south facade (Nazar Garden) show a two-story height facade that creates a certain rhythm by combining three vertical windows, one door, five vertical windows, and single doorway, respectively. In addition, the Square in this photo is divided into two parts by the conduit. The 11 one-story height arches on the west side of the Square, located after the entrance, have a portal except for the eleventh arch. The Khorshid (Sun) Mansion or the Ayeneh (Mirror) Mansion in the Nazar Garden can also be seen in the photo. [Fig. 2-f](#) shows the triumphal arch of the Naqqāra Khāneh, 1903, under the rule of Ala Al-Dawlah. The Naqqāra Khāneh was a two-story mansion with a two-column porch made of brick on the west façade and two wooden columns in the east part. On both sides of the Naqqāra Khāneh, one-story height walls with simple arches, such as the walls on the west side of the Square, can be seen. This photo's main feature is in the image's lower right corner. Behind the troops, part of the interior green space can be seen across the Square. Consequently, this triumphal arch and the mansion of Naqqāra Khāneh cannot be located above the northern water reservoir of the Square as [Tavassoli and Bonyadi \(1999\)](#) predicted. Furthermore, the presence of many trees behind the entrance eliminates the suspicion that there was a Square behind the Naqqāra Khāneh, as [Ghorbani and Hekmatnia \(2022\)](#) believe.

[Fig. 2-g](#) shows the "doorway or main gate of the Toopkhāneh square" in 1907. This photo is the only available image of the main entrance of Toopkhāneh Square, which, according to other pictures and its dimensions, was most likely related to the connection port of Toopkhāneh Square to Arg of Karim Khān. The title of this image also indicates that this was officially the main entrance to the Square. In this

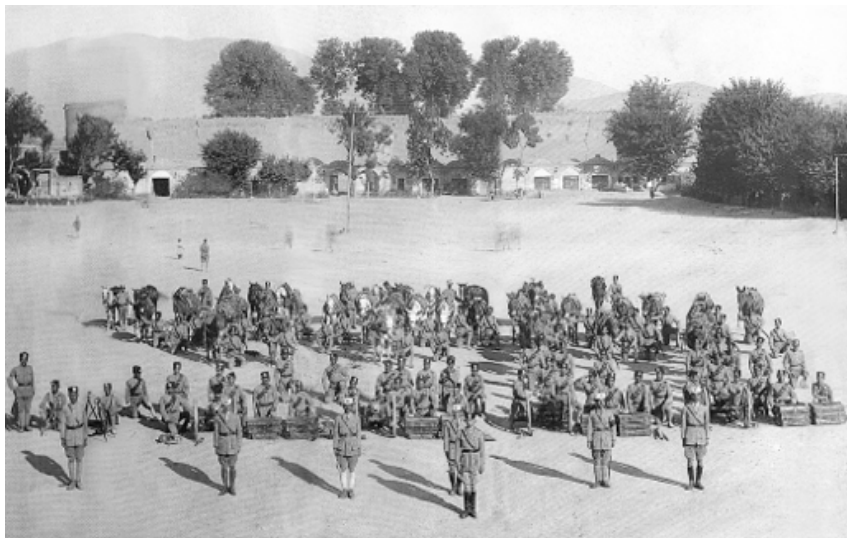


Fig. 3: Iranian Gendarmerie with a Swedish officer in the Toopkhāneh Square ([Sane, 2003](#))

picture, a simple arch has been added to the top of the second floor of the building. Unfortunately, hanging carpets, frames, and fabrics on the façade of the gate has made it impossible to identify details accurately. However, the human scales in the image are good evidence of the proportions of the entrance.

Fig. 3 shows the Gendarmerie with a probably Swedish officer in the Toopkhāneh Square (1911-1916 / Ahmad Shāh Qājār - the first years of World War I). This photo is the last image of the Square in the Qājār period, at least what I have found so far. In this photo, the erosion of the Arg is quite evident. The arches on the west side of the Square were not far from destruction. Its verandas are blocked, and a large doorway as wide as the arc completes it. The gate has been destroyed and replaced by three simple arches with Qājār semicircular arches on top. On the left side of the image, the access portal of the Square can be seen, which is not in line with the dominant pattern of the Square. The amount of erosion on this side of the Square proves that the eastern part of the Square, where there was a Naqqāra Khāneh, probably should not be in good condition. If this inference is correct, Ghorbani and Hekmatnia's opinion about the existence of Naqqāra Khāneh until 1933 does not seem correct.

Decline and destruction: Toward modern urbanism (Pahlavi time)

Toopkhāneh Square was destroyed during the Rezā Shāh Pahlavi period (1925-1941) based on modernism in urban planning. Of course, it should be borne in mind that the Square destruction process had already begun in the Qājār time. In a map prepared in 1923 by order of the Firuz Mirza under the supervision of engineer Mirza Abolhassan Khān and by Ernst Hertzfeld from Shīrāz, the eastern side was destroyed, and the access road to the surrounding alleys was opened

(Fig. 4-a). Akio Kazama (1935/2002), the first Japanese minister to stay with the legation in Iran (1929-1932), does not mention the Toopkhāneh Square; meanwhile, in the face of Tehran Toopkhāneh Square, he pointed out the hours of opening the gates of the Square during the day and night. His quotation shows that the Square no longer has its past manifestations.

During the reign of DolatShāhi, the governor of Fārs, to expand the city, a modern boulevard currently named Zand Boulevard passed in front of the Nazar Garden, destroyed the Ayeneh Mansion, and crossed a part of Vakil Bazaar until it led to Saadi Gate at the other side of the city (Karimi, 1965). There is no consensus on the date of construction of this boulevard; it happened around 1935 or 1936 (Behrouzi, 1975) or maybe in 1937 (Sami, 1984). The boulevard destroyed five vaults of the Vakil Bazaar. Furthermore, many parts of Nazar Garden and Meydān-e-Mashq were demolished and replaced by municipal buildings, the judiciary, Namazi High School, Nazemieh High School, Zand Elementary School, a public library, and the finance department.

During this action, the southern part of Toopkhāneh Square was turned into Melli Bank, Sepah Bank, and Police Department. The street was built along Pahlavi Street, which crossed the eastern part of the Square and was known as Shāhpour (now named 22 Bahman). This street is in front of the Pārs Museum in the Nazar Garden, between Melli Bank and the Police Department. To the east of this street, Shāhpour School was built. Another road was constructed north of the Toopkhāneh Square, between the Arg and the municipal building known as Naser Khosrow. The entrance to the Divānkhāneh and the post and telephone department were built on it. Fig. 4-d shows the Shīrāz in 1945.

In a photograph by Ernst Herzfeld (Fig. 4-b) taken from the northwest corner of the Toopkhāneh Square in the early Pahlavi period, parts of the Square can be seen. As seen in the photo, some of the rooms on the

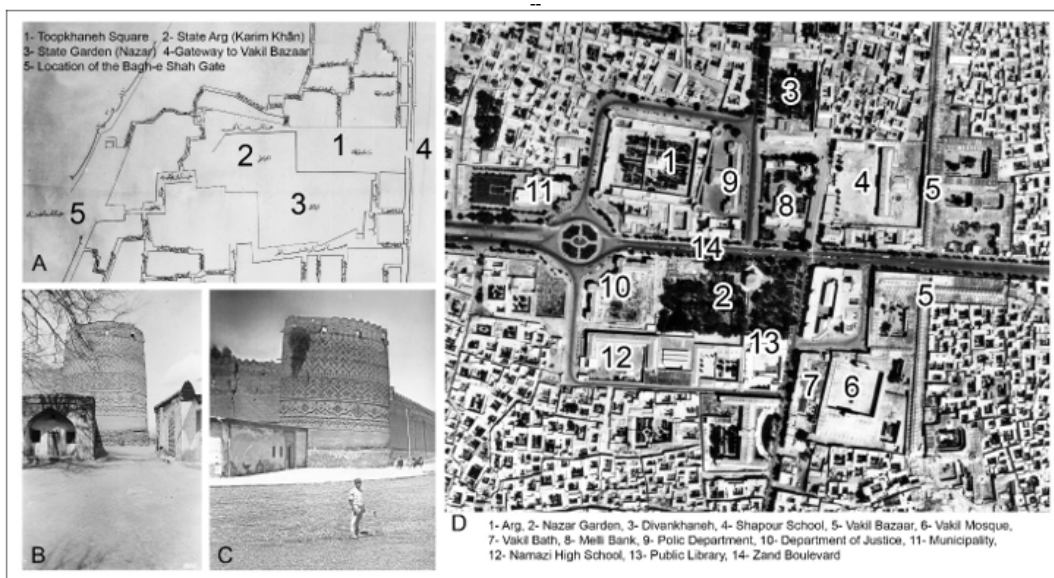


Fig. 4: Part of the map of the Shīrāz in 1923 (a) (Herzfeld, 1923) and the northwest corner of Toopkhāneh Square (b, c and D) (Sane, 2011)

west side of the Square are visible and still have their Qājār structure. A small part of the Square's northern side can also be seen in the picture, a one-story building. The connection of the two sides of the northwest corner of the Square is disconnected, which is also in line with Firooz Mirza's map. The stone flooring of the Square is still visible in the picture. The ditch around the Arg was also filled during this period. The mansion connected to the northeast tower of the Arg in Fig. 4-c has wholly lost the order and structure of the previous period, and in this photograph, which was taken in 1929. Part of its brickwork can also be recognized. The building in the northern part of the Square was also destroyed for the construction of Shāhpour Street. The curbs in the picture result from the construction of modern streets in the Pahlavi period.

RESULTS AND DISCUSSION

The re-generating of the Square's architecture

To find the initial and primary plan of the Square, one should use the documents of the Qājār period, and then, by deleting the changes in the

Square in that period, re-discovering the map of the Square in the Zand period is possible. To represent the Square in the Qājār time, (a) visual data of photographs, (b) descriptions of travelers, and (c) a GIS map of Shīrāz, which has good accuracy, were considered. The location of the entrance to the two main buildings of the Zandieh complex, Nazar Garden and Divānkhāneh, was considered a benchmark, so other-dimensional and geometric data could be obtained to a considerable extent. Luckily, the existing images from the west facade of the Square (in front of the Arg) are well analyzed in the pictures, so by extracting the dimensions of this part, another reference was provided to determine the proportions and geometry of the Square. At this stage, the prominent corners of the Square in the north and west were defined and drawn (Fig. 5). Using the human scales in the images, the general proportions of the division of the facades and the traditional methods of execution of the arches, and in some cases where the accuracy and clarity of the photographs were sufficient (for instance the images of the Rezā Shāh Pahlavi time), using the type of decorations and the brickwork method makes it possible to extract relatively more accurate

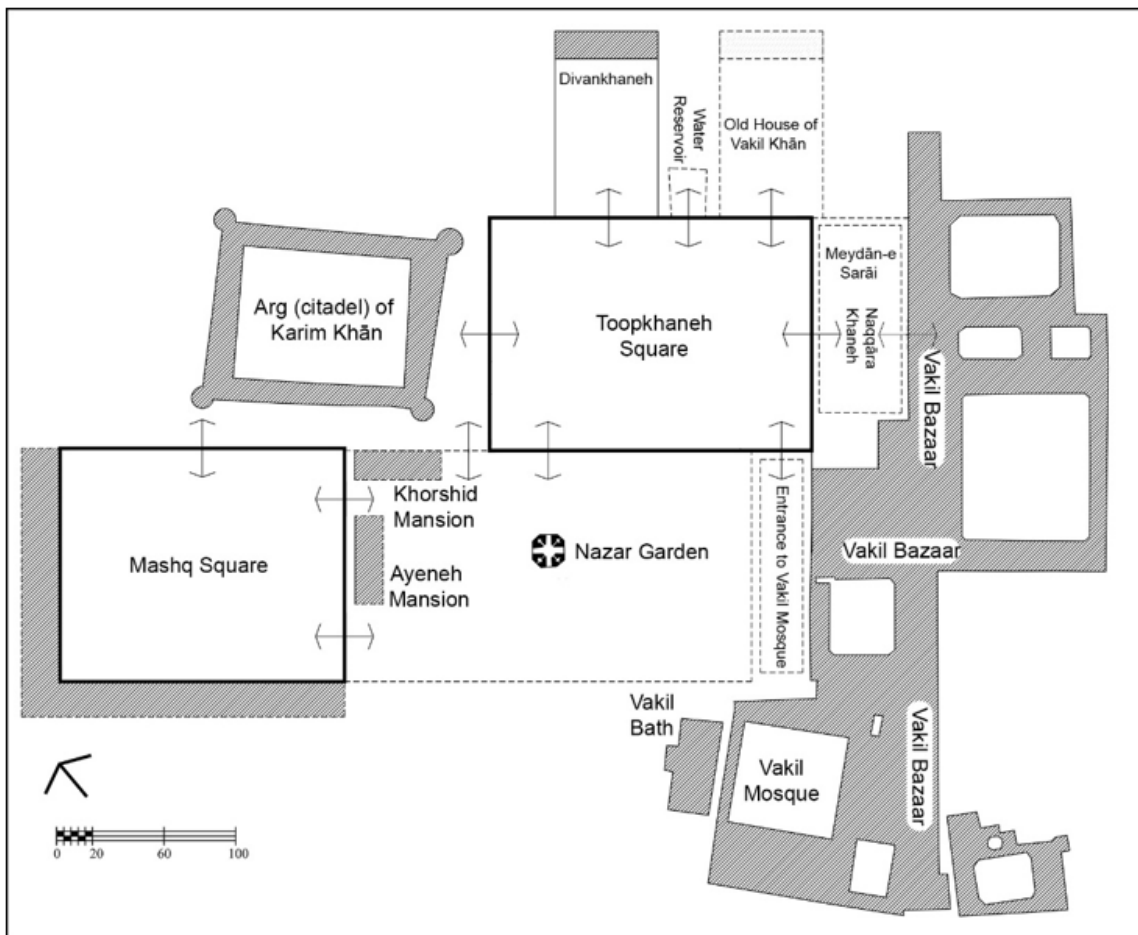


Fig. 5: The Shīrāz Toopkhāneh Square and its spatial relationships in Qājār time (source: Asadpour, 2018)

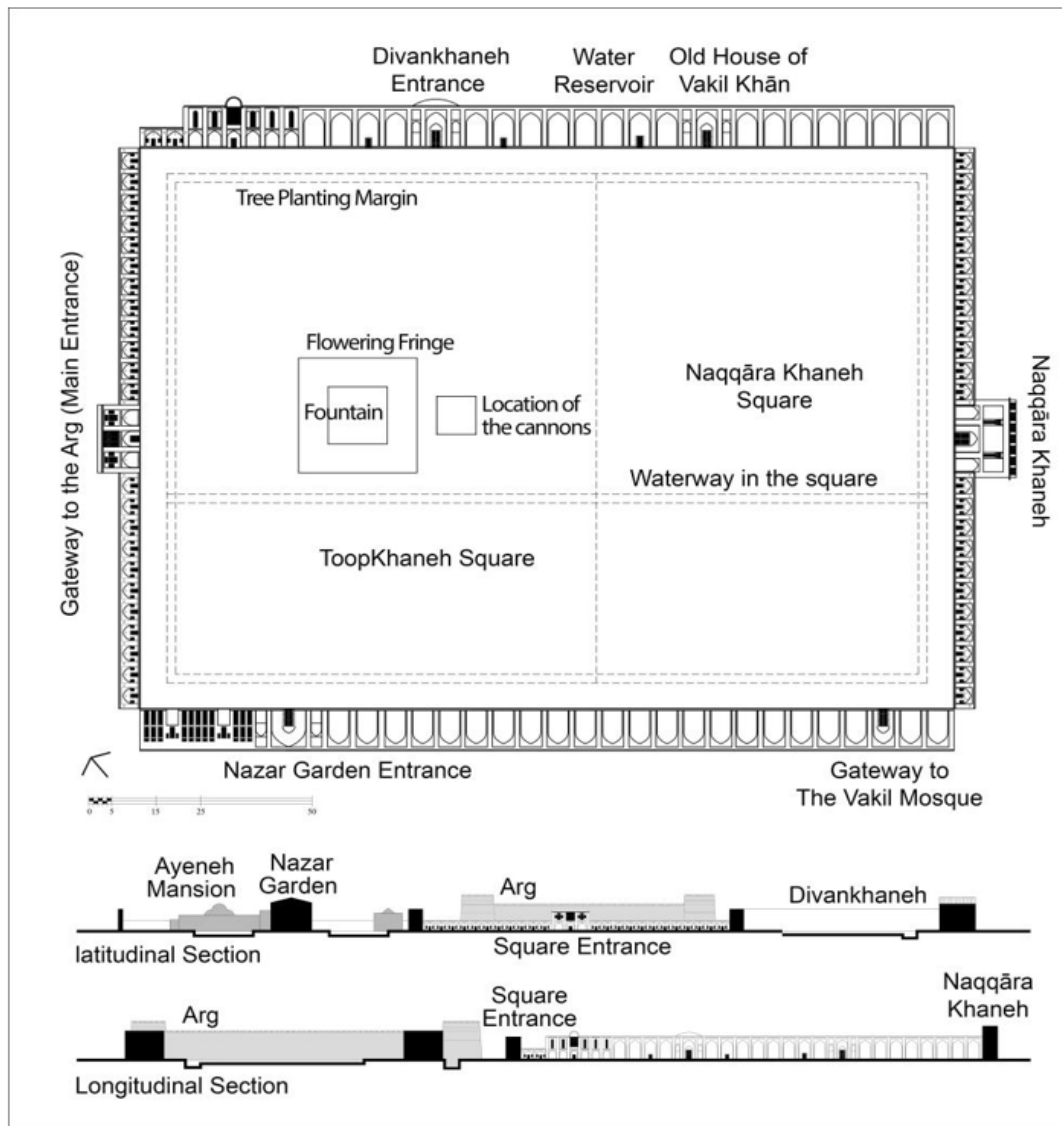


Fig. 6: The architecture of Shirāz Toopkhāneh Square during the Qājār period (source: Asadpour, 2018)

dimensions.

The proportions of the Toopkhāneh Square were horizontal (east-west) and about 130 by 185 meters. The ratio of length to width of this Square is about 1.4 (Fig. 6). The connection of the Square to the Arg was made possible by a two-story gate with a width of three arches, which was not located in the center in terms of design. Maybe the reason for this is the harmony with the angle of the walls of the Arg, which has a deviation. Consequently, it correlates the entrance of the Arg with the gate of the Square. The access of the Square to Divānkhāneh and Nazar Garden is also provided by defining one simple but high portal and two other entrances. These doorways can be seen in the photos.

Several other small entrances in the photos can be considered

secondary access. The two openings on either side of the Divānkhāneh portal, which are symmetrically embedded, could make it possible to enter and leave or do some court affairs without entering the central courtyard or the main building. Doors installed on the same side and close to the opposite side of the Arg are also due to physical changes in the Square, and the construction of buildings with minor uses is unknown. However, our information from the mansion in the southwest corner on the south side of the Square is more telling. The building is part of a mansion that provided a secondary entrance to Nazar Garden, and above that, a government tailor's studio was working.

Nevertheless, the location of other gates on these two sides is reasonable, given the location of the buildings. In this representation,

the connection of the Toopkhāneh Square with the barracks was made by arches and the two-story mansion of the Naqqāra Khāneh, which was arranged in symmetry with the western side (Arg). Access to Vakil Bazaar was probably possible after the courtyard behind the Naqqāra Khāneh as secondary access. Similarly, since the entrance pathway to Vakil Mosque does not evoke an asymmetrical and very formal structure due to the mosque portal's dimensions (or proportions),

the entrance to the space leading to the mosque inside the Square is considered a simple doorway.

The original Architecture of the Square in the Karim Khān Zand Time

The first attempt to retrieve the architecture of the Square was the work done by Tavassoli and Bonyadi (1992). Figure 7 shows their

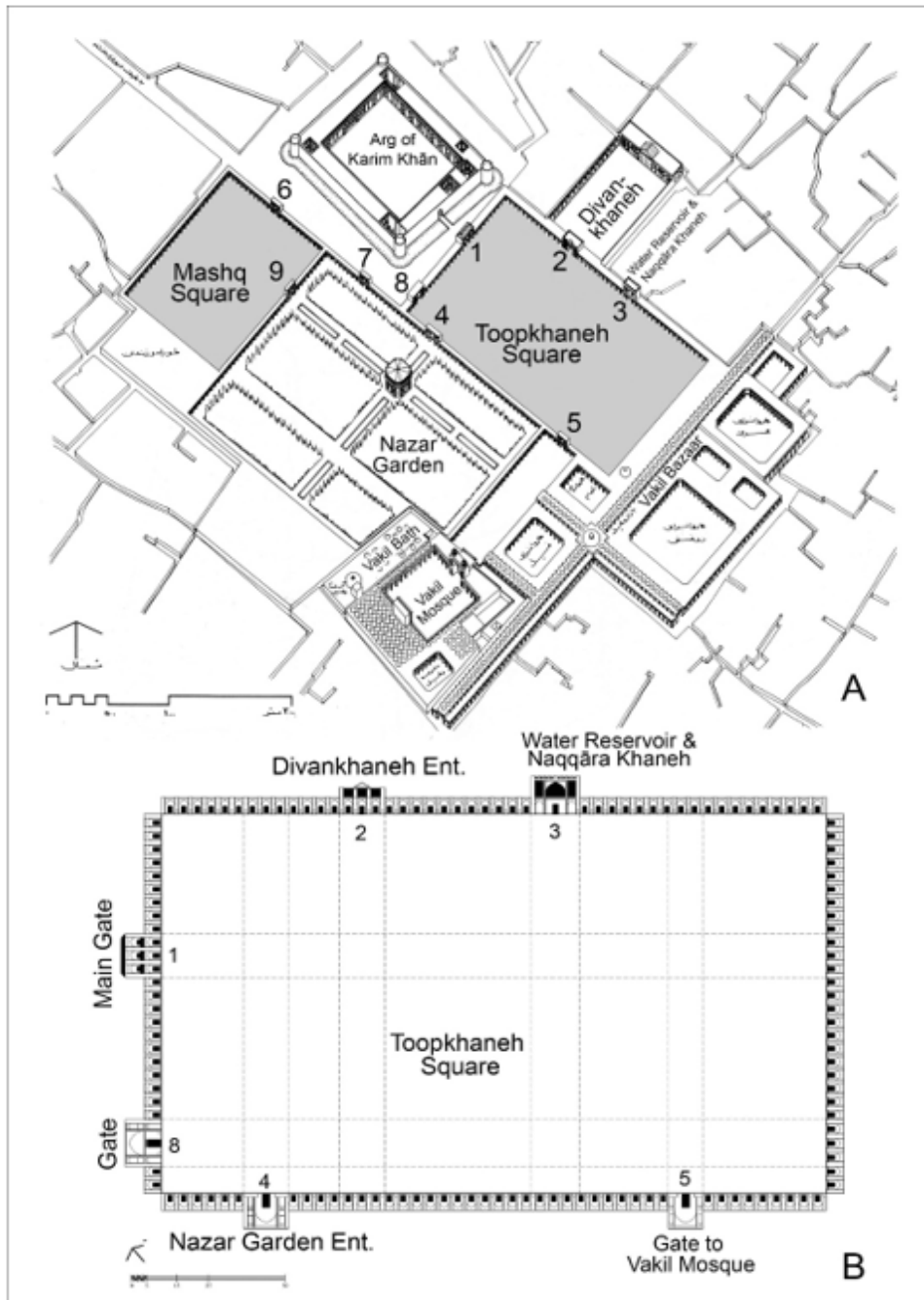


Fig. 7: A presumptive and common isometric of the Toopkhāneh (Arg) Square in the Zand era (a) (Tavassoli & Bonyadi, 1992) and the plan and its configuration (b)

proposed design in a three-dimensional. This document has exciting points, and, at the same time, results can not necessarily correspond to reality; a comparison of their suggested configuration with photographs of the Qājār period shows stark differences in some cases. Their representation is based on two bases: the first is that the Shīrāz Toopkhāneh Square was modeled on Isfahan's Naghsh-e Jahan Square, and the second is the place of the connection between the Square and Bāgh-e-Shāh Gate (at the west side), which has finally created a new horizontal axis in the development of Shīrāz by the construction of Zand Boulevard. The evidence and arguments of this research require any issue to be reviewed.

Based on [Tavassoli and Bonyadi \(1992\)](#), the Square consists of single-story walls with regular and continuous arches whose rhythm is changed by the surrounding portals ([Fig. 7](#)). The western side of the Square that leads to the Arg has two gates (entrances No.1 and 8) located in a set of 22 simple one-story height arches intended to respectively link the Arg to the Square and the Square to outside passages. The northern facade of the Square has 41 arches, which change when reaching the Divānkhāneh portal, the portal of the water reservoir, and the Naqqāra Khāneh. The southern facade of the Square also includes the same number of arches cut off by the portal of the Nazar Garden and the gate with the space in front of the Vakil Mosque. Nevertheless, the square's eastern side has only one-story height arches without gates.

In this representation, the Toopkhāneh square is related primarily to the three buildings: Nazar Garden, Divānkhāneh, and Naqqāra Khāneh. The access of the Square to the Arg, mosque, and bazaar is done through some intermediary, and therefore it is not the primary access. This issue has made the functional role of the square military and government. On the other hand, the Square lacks proper urban access.

The Square in this representation has a horizontal orientation in the east-west axis and a rectangular orientation regarding the spatial proportions. The physical aspects of the Toopkhāneh square, especially on the east side, lack any focal point or particular element visually and even functionally. The location of Bāgh-e Shāh Gate does not correspond to the plan of the Russian crops in the Qājār time, which challenges the importance of the supposed east-west orientation for accessing the squares outside the city, which was also their regulatory axis. This raises several design issues:

A) The proportions of the tall Divānkhāneh walls, which are still standing, are more significant than the height of the arch intended for the Square, and therefore, the possibility of connecting its portal and the walls on both sides with other courtyard walls remains unsolved in this representation. This can also be seen in the isometric ([Fig. 7-a](#)).

B) This representation does not define enough spatial enclosures for the Nazar Garden in the south of the Square, where historically, Iranian gardens were surrounded by a continuous high wall. Moreover, the low height of the square walls cannot create a good level of enclosure for the Square. The existing historical images of the Square in the Qājār period ([Fig. 2](#)) show another facade pattern that does not align with the current plan.

C) According to some writings of the Qājār time, the Naqqāra Khāneh does not correspond to the predicted location, which is currently

located on the northern side of Toopkhāneh Square. If we accept that the Naqqāra Khāneh was on top of the water reservoir, the defects of the reservoir structures and the Qājār photos of this building are the reasons for violating this idea.

Regarding the visual evidence presented in the section related to the Square during the Qājār period, it seems that the structure of the Arg square in the Zand time was formed by the typical pattern of simple bricks with minimal decorations, in which the Square had an east-west extension with a length of 180 meters and a width of 130 meters, which has a ratio of about 1.42 ([Fig. 8](#)). The western and eastern facades (adjacent to Arg of Karim Khān and Vakil Bazaar, respectively) used single-story height arches. The northern and southern sides (adjacent to Divānkhāneh and the water reservoir, respectively, and the gate to access the Vakil Mosque and Nazar Garden) are about one and a half the size of the arches on the other two sides. During this period, the Square was the new governmental center of the city and created a new structure not for the city's development but for creating an open space as a square in the citadel complex.

The simple brick mansions of the Naqqāra Khāneh and the Square's main gate opposite each other are the distinguished parts of the Square with many arches on either side that probably continued to reach the end of the Square. In the spandrels of these arches, simple brickwork has been used. The Naqqāra Khāneh mansion ([Fig. 9](#)) has two wooden columns facing the Square; the columns are made of brick on the other side. The Naqqāra Khāneh was open on all four sides, and except for the side adjacent to the Square, the other sides have simple arches that are not drawn in the current view to make the design more expressive. The Divānkhāneh portal ([Fig.10-a](#)), the man gate in the west ([Fig. 10-b](#)), and the Naqqāreh Khāneh in the east ([Fig. 10-c](#)) are the only visible landmarks in the spatial organization of the Square. The lack of a sense of spatial enclosure of the Square was compensated by the height of the Arg and its splendor visible behind it. The Arg is the primary visual element as a focal point of the Square. The size of the north and south sides of the Square was much higher than the other sides, and thus, the Square was sufficiently enclosed ([Figure 10-d](#)). [Table 1](#) compares the ideas about geometry and how to access this Square.

CONCLUSION

Few surviving historical documents from the Zand time (1751-1794) reveal that the location of the Arg Square was most likely an open space for barley and wheat cultivation in the beginning. While building the Zandieh complex, this Square slowly found its final architecture. Though, in no writings of historians and travelers, this Square does not have a specific name, "Arg Square" in the Zand period. Instead, it is called "the square in front of the Arg." The role of this Square at this time was the same as Arg squares in other cities: an open space to connect the main buildings needed for military and administrative affairs and as an interface of the citizens and the government to announce official orders and execute judicial rulings or ceremonies. Contrary to common belief, the idea of building Shīrāz Arg Square could not be Isfahan Naghsh-e Jahan Square. The structure of its surrounding buildings where the Zandieh complex is located and the spatial-functional organization of the buildings around the Square in

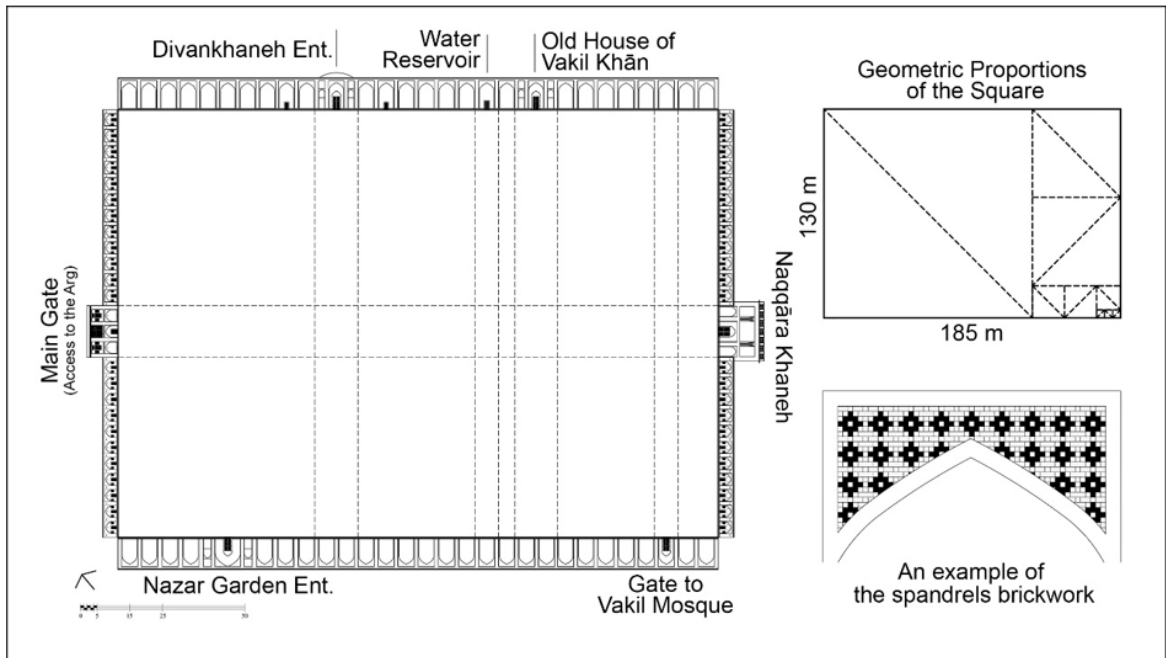


Fig 8. The original (correct) architecture of the Shīrāz Arg (Toopkhāneh) Square during the Karim Khān Zand (source: Asadpour, 2018)

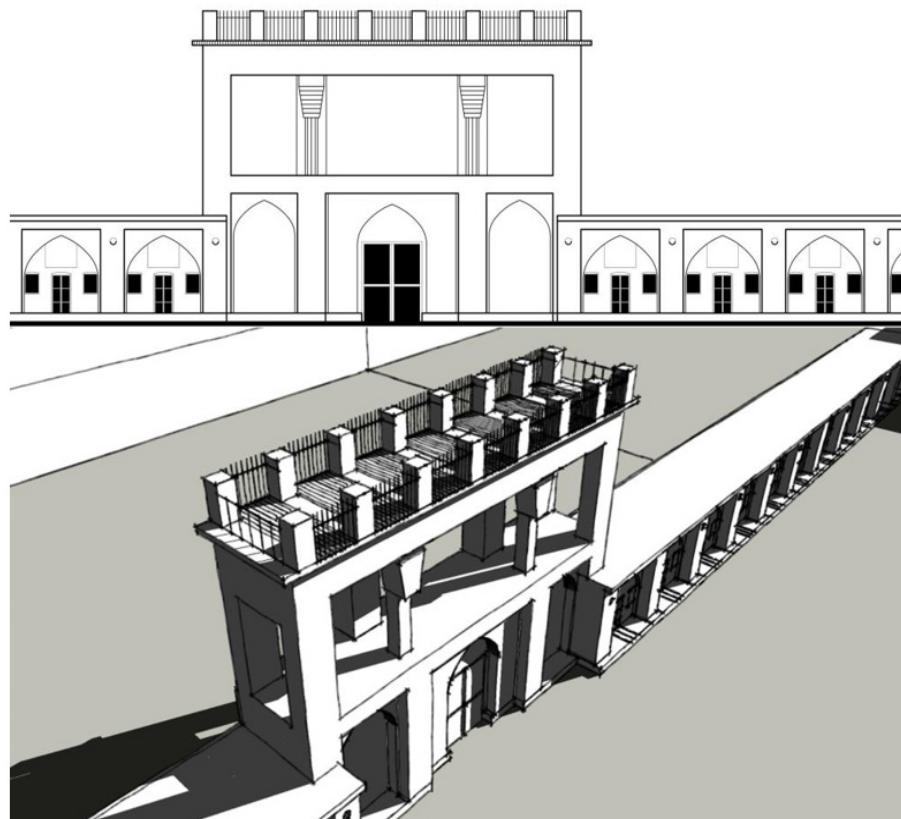


Fig. 9: The Naqqāra Khāneh west façade and perspective (source: Asadpour, 2018)

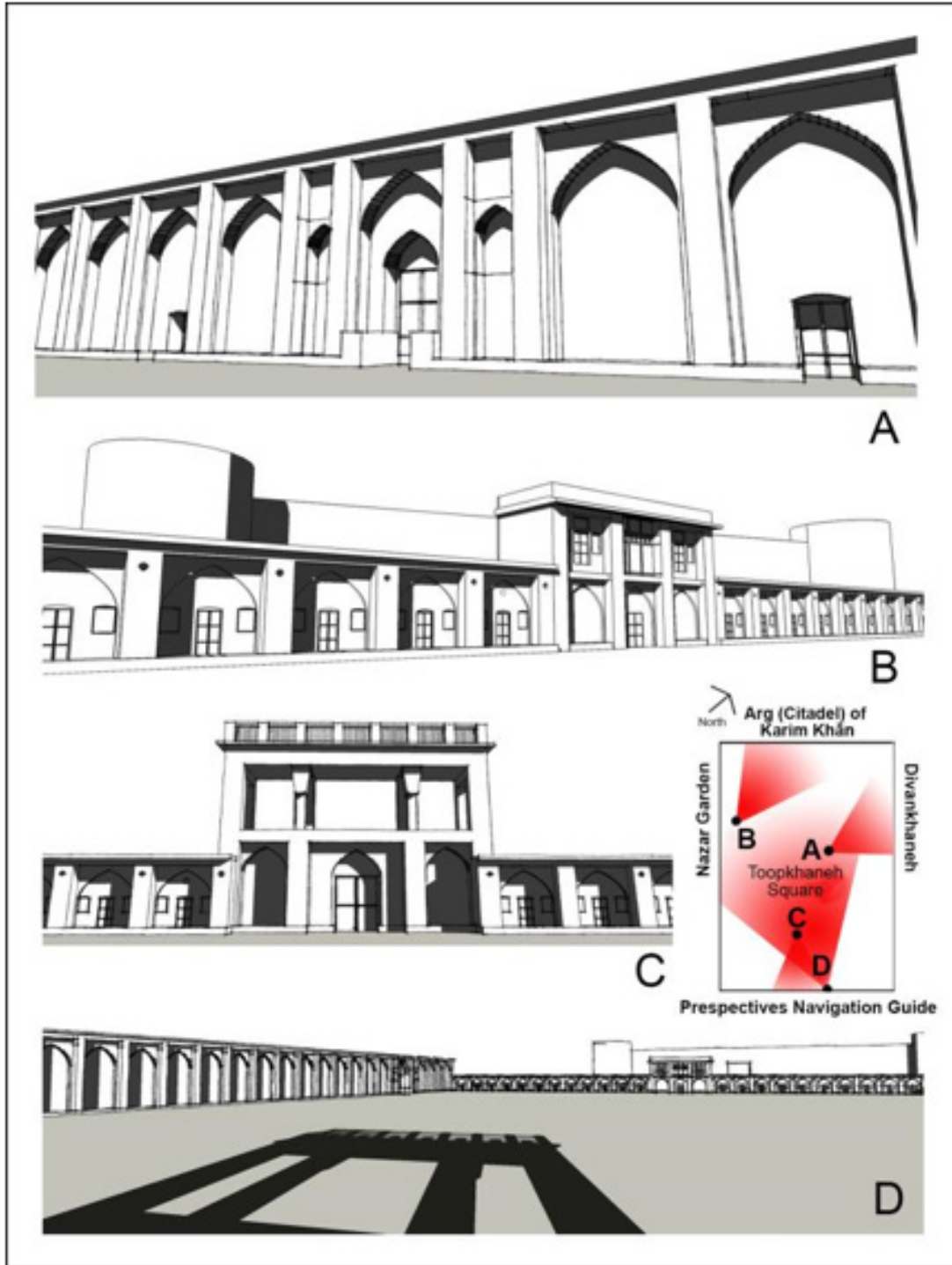
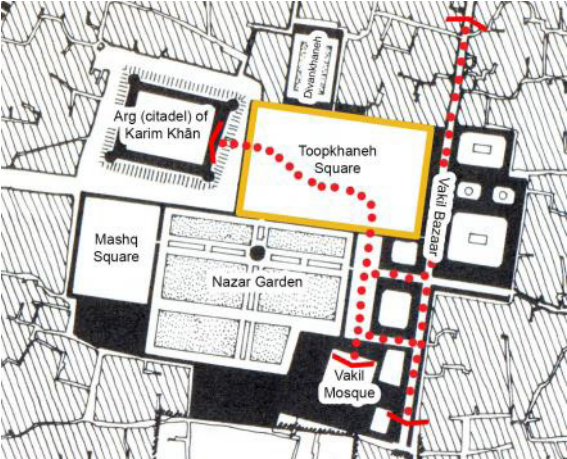
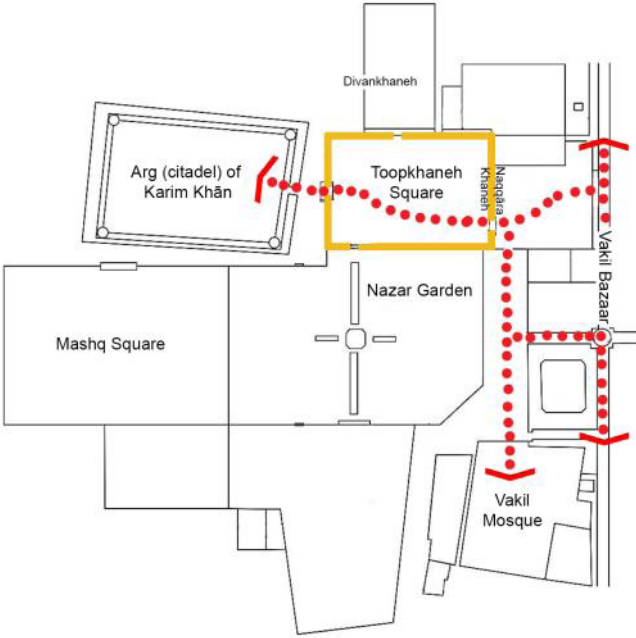
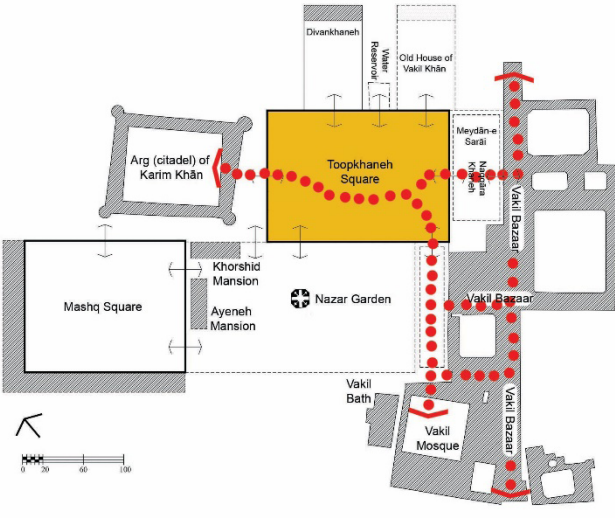


Fig. 10: Perspectives of the Arg (Toopkhāneh) Square in the Zand time (source: Asadpour, 2018)

Table 1: Three models for the Shirāz Toopkhāneh Square and the arrangement of buildings around it

No	The Shirāz Toopkhāneh Square and its spatial relationships	Reference	Note
1		<p>Tavasoli & Bonyadi (1992)</p>	<p>The central idea of Tavasoli and Bonyadi is that the Toopkhāneh Square was modeled after Naqsh-e Jahan Square in Isfahan. For this reason, a set of gates or portals has been considered to connect the square with the buildings around it, and a unique identity has been considered for each one. However, their model does not match with historical photos and documents. The critical point in their model is that the bazaar had a direct way to the Square through the mosque. If this opinion is correct, Vakil Mosque's location and connection with the citadel (Arg) seem more logical.</p>
2		<p>Ghorbani & Hekmatnia, 2022</p>	<p>Ghorbani and Hekmatnia believe that Naqqāra Khāneh Square is located behind the Naqqāra Khāneh Mansion. Although their documentation is insufficient for such an argument, the connection between the mosque and the Square may be cut off if this issue is accepted. In other words, to go from the citadel (Arg) to the mosque, you must go from Toopkhāneh Square to Naqqāra Khāneh and reach the mosque from there. This model causes the position of Vakil Mosque to degrade in terms of importance and accessibility.</p>
3		<p>Asadpour, 2018</p>	<p>The model presented in this research is based on the fact that the Shirāz Toopkhāneh Square should be considered a government-military square in the category of citadel squares. Therefore, the connections of this square with the surrounding buildings should be more limited and controlled than public urban squares such as Naqsh-e Jahan Square in Isfahan. In this model, there is a connection between the mosque and the bazaar with the Square, and there is also a connection between the bazaar and the Meydān-e Sarāi, which also led to the Toopkhāneh Square through the Naqqāra Khāneh portal. There are remains of the entrance of Vakil Bazaar in its northern part, which confirms this access. This access was for military or other government personnel. Like foreign travelers, the general public has made their way to the square through the route marked as a red dotted line on the map.</p>

this complex testify that the purpose of building the Zandieh complex was to establish a governance open space similar to other historical court buildings in the country.

The term "Toopkhāneh" was not used in the writings of the travelers and writers in the first half of the Qājār period to refer to the Square in front of the Arg. Only in the Nāser-al-Din Shāh (1848-1896) period and especially during the reign of Mozaffar-al-Din Shāh (1896-1907), the "Toopkhāneh Square" had been mentioned in historical photographs. For various reasons, such as low artistic value and distorted visual quality due to physical interference, this Square has not been considered by foreign travelers as much as other historical squares in other important cities of Iran, and even if they want to name it, used "Square" or the "Square in front of the Arg." Nevertheless, the presence of the cannons in this Square is symbolically seen in many descriptions of the European travelers from the time of Zand to the end of Qājār. The comparison of the Tehran and Shīrāz Toopkhāneh Square shows that in both squares, the cannons are placed on a symbolic platform, and a pool of water and vegetation is used with similarities in the design of the square landscape. This issue may determine the effect of Tehran Toopkhāneh Square on the example of Shīrāz during the Qājār era.

The functional role of Shīrāz Toopkhāneh Square is governmental-bureaucratic mainly, and its presence in urban developments is entirely different from Isfahan Naghsh-e Jahan Square. However, ritual and religious events in the Toopkhāneh square should not be forgotten. This role has made the cannon's presence in the Toopkhāneh square a justified and continuous symbolic tool. The arrangement of the buildings of the Zandieh complex has been a kind of defense system against the invaders. The access route from Isfahan Gate and the location of the Arg, the fortified wall, and the Divānkhāneh all make the idea that the Toopkhāneh Square was not designed as the Isfahan's Naghsh-e Jahan Square. The Zandieh complex is a type of government complex under the small boundary of inner-city space. Of course, the lack of sufficient space in the city, the natural bottlenecks near the city's fortified walls, such as the proximity to the river and the way of organizing neighborhoods and social and religious forces, made the current place a logical and practical location to build the complex and its squares. The Arg square and its adjacent buildings should be considered as a type of governmental-military function with various internal relations, which, unlike the Arg of Tehran, does not have a clear border and fortified wall, nor, like the example of Isfahan, has flourished with ambition arising from security and prosperous economy. Instead, the third type of design based on the pre-existing conditions of a historic city is stressful and imaginative at the same time.

Studying the evolution of the Arg to the Toopkhāneh square reveals that this Square was built in the days of the Karim Khān Zand with a rectangular proportion so that the opposite sides were designed similarly. On the west side, the main gate of the Square had access to the entrance of the Arg, and in front of it, on the east side, the opening of the Naqqāra Khāneh made it possible to connect directly to the north part of the Vakil Bazaar. The north and south sides of the Square also had similar arches that were about one and a half times the height of the other two sides, and several small and straightforward portals and entrances made it possible to connect the Square with the surrounding functions such as water reservoir, Divānkhāneh and garden and access

to the Vakil Mosque. Interventions in the square walls from the Qājār time begin with changes in the northwest and southwest corners. At the end of the Qājār period, this Square was going through its erosion stages, and the corners of the Square were the first parts that underwent profound changes at this stage. Lastly, in the Rezā Shāh Pahlavi era (1925-1941), the Square disappeared because there was no other idea for developing a traditional city based on modern urban planning strategies.

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CONFLICT OF INTEREST

The author declares that they have no potential conflict of interest regarding the publication of this work. In addition, the author has completely complied with ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancy.

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