Architectural glass in the 18th to 20th centuries in Iran

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Field of interest: glass in architecture

Abstract

In this research we study the Orsi windows as one of the significant elements in the Iranian architecture during the centuries 18th to 20th. Orsi windows reflect and refer to the Islamic and the Iranian ancient religious and the beliefs concerning the function of light in interior spaces, creating a dynamic and spiritual atmosphere for the inhabitation of a building.

Keywords: Orsi widows, Light, Ancient Iranian beliefs

Introduction

Handmade glassware has a long history in Iran and it goes back to the first millennium BC [1]. Since then, Iran retained its position in the development of glassware making until the Mongol invasion in 13th century, when glass making had a cessation for one and half centuries because the majority of glassblowers immigrated to the west. Then after some years, from sixteenth to nineteenth centuries, kings of Safavid dynasty and Qajar dynasty gave a special attention to renovate traditional arts like glass art [1]. Orsi, Arasi or Orsi are sash windows, resulting of craftsmanship skills in Safavid era in Iran. There is no evidence of producing Orsi windows or sash windows before Safavid era in Iran, and the oldest examples of sash windows in Iran were found from Safavid era and after that time. In Safavid and Qajar era, Orsi windows were a kind of luxurious decoration which was used in different places like houses, Mosques, schools, Hussainiyas [2] [3].

Orsi windows are mix of wooden Girih tiles with colorful pieces of glass [4]. The passing of light through the colored glass brings spirituality to the interior space and enlarge its actual size (Fig. 1). In addition, Orsi in Iranian architecture has a special value because its function refers to the light allegory in the Iranian ancient religious and beliefs. Before the advent of Islam in Iran (637–651), many religions like Zoroastrianism and Manichaeism and Mithraism used the metaphor of light to illuminate their doctrines [2]. In Islam, light is a symbol of God and there is a chapter with the name of light in Quran [5]. In this chapter God introduces himself as a light of earth and heaven: “Allah is the Light of the heavens and the earth” (Quran 24:35).

Light is in contrast with darkness and one of the most significant elements in ancient Iranian religions is the victory of the light over devil darkness [5]. Traditionally Iranian have a hatred of darkness and they tried to bring light inside their houses, worship places and almost all interior places. They bring light into interior places considering the climate of the place – Iran is a big country and has 4 different climates (cold; hot and arid; semi-arid and humid; and mild climates). Architectures in 18th to 20th centuries in Iran consider two types of elements in designing Orsi windows based on the specificity of climates: first, light controllers and second, light amplification. About two-thirds of Iran’s are in the hot, arid and semi-arid climate, light controllers were considered fundamental in the structure and organization of Iranian architecture [5]. Iran climate conditions and specific religious beliefs in Iranian ancient architecture resulted in an inward seeking architecture, where one can see no opening in external walls while the inside façade is full of windows facing the courtyard [6]. Orsi windows are movable panels which are opened by sliding vertically or horizontally, instead of flipping on the heels round (Fig. 2); this feature resulted minimum amount of occupied place during opening and closing [4]. They

1 Safavid dynasty (1501–1736) was one of the most significant ruling dynasties of Persia (modern Iran) after the fall of the Sassanid Empire during the Muslim conquest of Persia in the 7th century AD, and is often considered the beginning of modern Persian history.
2 From 1785 to 1925.
3 Hussainiya is a congregation hall for Shia commemoration ceremonies, especially those associated with the Remembrance of Muharram.
4 Girih tiles are a set of five tiles that were used in the creation of Islamic geometric patterns using strapwork (girih) for decoration of buildings in Islamic architecture.
5 Sūrat an-Nur (Arabic: سورة نور, "The Light") is the 24th sura of the Qur'an with 64 aytay.
Fig. 1 Haj Agha Ali’s house in Rafsanjan, Kerman, Iran. Gajar Era. © Sara Lava.

Fig. 2 Dolat abad Garden, Yazd, Iran. Built in 1747. © Mahdi Taheri.

Fig. 3 Nasir Al Mulk Mosque, Shiraz, Iran. Built in Qajar era. © Mohammad Nouri.

Fig. 4 Aminiha Hosseiniyeh, Qazvin, Iran. Built in 1858. © Marziye Falahnejad.

are designed to be a part of the architectural decoration which manage the light by a handful of wooden details containing tiny pieces of colored glass. Different colors used in each piece of glass have psychological impact on human behavior [7]. In addition, “mild” colors control and balance the intensity of light. According to the Islamic beliefs, colorful light is a symbol of God’s holy presence in the interior architectural design. Nasir ol Molk Mosque (Fig. 3) in the city of Shiraz is a good example which was built from 1876 to 1888, by the order of Mirza Hasan Ali (Nasir ol Molk), a Qajar ruler. The Western bedchamber of the mosque has seven doors in wooden colorful glass connecting to the courtyard of the mosque. This mosque is acknowledged as the pink mosque because of using considerable pink color tiles in its interior design. In this mosque people can feel and experience the effects of light, observing dynamic images appear and change continuously, depending of the weather and the position of the light. Also dynamic images of colored light are a symbol of God’s presence.

Designers of Orsi windows used abstract geometrical shapes due to the prohibiting use of human images in Islamic arts. This geometrical shapes with different angles from each other, create sound effects, and therefore Orsi windows have acoustic resonance effect which is the subject of acoustic science [4] [8]. Orsi windows also limit the visibility from the outside to the inside of the houses and provide privacy in the interior. This characteristic of Orsi windows leads architectures to use them inside the houses as a dividing wall too; for instance, in Aminiha Hosseiniyeh (Fig. 4) Orsi windows are employed as a dividing wall inside the house and are also used for dividing the rooms from courtyard. At last it shouldn’t be unmentioned that based on the experience of the ancestors and those who have used the Orsi windows, these kind of windows prevent the appearance of annoying insects and reptiles inside the houses by creating colorful lights [8].
Conclusions

Orsi windows are important elements in traditional Iranian architecture in 18th to 20th centuries. The special characteristic of Orsi windows is the attractive light reflection in interior spaces, referring to Islamic and the Iranian ancient religious and beliefs. Besides its beautiful effect on exterior and interior design of a building, it also creates a dynamic environment with colorful lights and have acoustic resonance effects. Moreover, Orsi windows provide a safe atmosphere for interior inhabitants mostly by women - by making visibility limitations and also by keeping reptile and insects away to enter the house because of colorful lights.

References

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Acknowledgements

This work was funded by the Foundation for Science and Technology (FCT) under the grant SFRH/BD/102977/2014.