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# FORM, FUNCTION & MEANING OF WINDOWS: AN ANALYTICAL STUDY OF ISLAMIC MONUMENTS OF IṢFAHĀN (17TH TO 19TH CENTURIES)

BY

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A dissertation submitted in fulfilment of the requirement for the degree of Master of Arts in Islamic and Other Civilizations

International Institute of Islamic Thought and Civilization
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# ABSTRACT

This study seeks to investigate and clarify the Iranian Islamic Windows from 17th to 19th centuries of Iṣfahān, through a descriptive study of historical developments of windows in traditional buildings. Although, there are some academic studies about modern windows and their relation to climatic perspective, there are no written and classified documents on Iranian traditional windows. It focuses on form, function and meaning of those windows and their decoration, placements and colour. To achieve the research objectives, it carried out systematic library research and field works, visiting Haqīqī, Borujerdi-ha and Mashruteh house besides Sheikh Lutfullāh Mosques and Ali Qoli Agha Public bath in the state of Iṣfahān, and technical observation done by photography. In addition, preparation of line drawing of window's classification and analytical study according to their forms, patterns, materials and colours constitute a stage of visual research methodology. It is found that there are 15 types of windows in Iranian buildings falling under three categories: the full/semi wall windows, the wall orifice windows and the ceiling windows. The central thrust of the study is that the Iranian Islamic windows can indeed be defined as an important and sacred element of building with their holy and undeniable association and relation with light. Iranian windows were not only used as ventilation and decorative constructions, they had been used as spiritual element too. Since the main function of the windows remains all through the history, to use these windows in the modern era, there is a need to redefine their placement and decorations.

# ملخص البحث

تهدف هذه الأطروحة لدراسة وبيان النافذة الإسلامية الإيرانية لفترة ما بين القرن السابع عشر والتاسع عشر الميلادي في أصفهان، وذلك من خلال دراسة وصفية عن التطورات التاريخية لنوافذ المباني التقليدية. فالبرغم من أنّ هناك دراسات علمية حول النوافذ الحديثة وعلاقتها بالمناخ إلاّ أنّه لا توجد وثائق مكتوبة وموثقة حول النوافذ الإيرانية التقليدية. وبناءً عليه فإنّ هذا البحث يركّز على شكل ووظيفة ومعاني تلك النوفذ ويهتم بالنواحي المتعلقة بديكورها ومواضعها وألوانها. ومن أجل تحقيق أهداف البحث اعتمدتِ الباحثة على البحث المكتبي والميداني القائم على الملاحظة حيثُ قامتْ بزيارة كلّ من بيت هقيقي وبيت بروجرديها إلى جانب زيارتها مساجد لطف الله وعلى غولي آغا بولاية أصفهان مصطحبةَ معها جهازًا فوتوغرفياً. وبالإضافة إلى ذلك فإنّ الباحثة قامتْ بإعداد خطٍ لرسم النوافذ وتصنيفها وإجراء دراسة تحليلية عليها وفقاً لأشكال وأنماط ومواد وألوان محددة. وتُعدّ هذه منهجيةَ البحث البصريةَ. وفي الأخير توصّل البحث إلى أنّ هناك خمسة عشر نوعاً من نوافذ المباني التقليدية الإيرانية والتي يُمكن تصنيفها وفقاً لأماكن وجودها إلى ثلاثة أنواع: النوافذ ذات جدران كاملة وأخرى نصفية ووجدران ذات فوهات وفتحات على السقف. ومن هنا فإنّ الركيزة الأساسية لهذه الدراسة تكمن في أنّ النوافذ الإسلامية الإيرانية يمكن أن تُعتبر في الواقع عنصراً مهماً ومقدساً للمباني، وله علاقة بالضوء. ومن الجدير بالذكر أنّ النوفذ الإيرانية لم تُستخدم فقط من أجل التهوئة والزخرفة أوالديكور بلِ استُخْدِمتْ لأغراض روحية أيضاً. وبما أنّ الوظيفة الرئيسة التي كانت تؤديها النوافذ تبقى تاريخيةً فإنّ استخدامها في العصر الحديث يتطلّب إعادة تحديد مواطنها وزخرفتها.

# APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Arts (Islamic and Other Civilizations).

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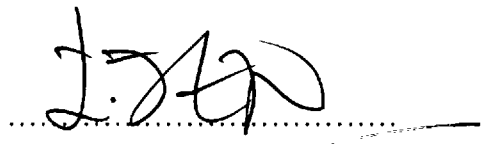
Supervisor



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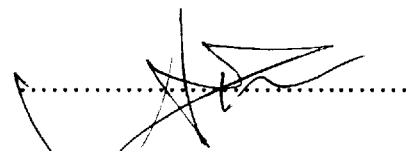

Ali Raza Soomro
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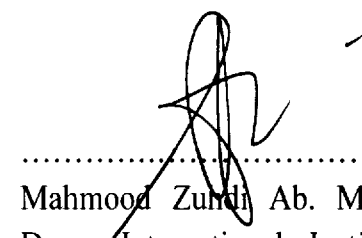
This dissertation was submitted to the International Institute of Islamic Thought and Civilization (ISTAC) and is accepted as a fulfilment of the requirement for the degree of Master of Arts (Islamic and Other Civilizations).



Mahmood Zuhdi Ab. Majid
Dean, International Institute of Islamic Thought and Civilization

# DECLARATION

I hereby declare that this dissertation is the result of my own investigation, except where otherwise stated. I also declare that it has not been previously or currently sublitted as a whole for any other degrees at IIUM or other Institutions.

Tayebeh Goodarzi

Signature..... Date..24.7.2014.....

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## FORM, FUNCTION & SYMBOLISM OF WINDOWS: AN ANALYTICAL STUDY OF ISLAMIC MONUMENTS OF IṢFAHĀN (17TH TO 19TH CENTURIES)

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"O my Lord! So order me that I may be grateful for Thy favours, which thou hast bestowed on me and on my parents, and that I may work the righteousness that will please Thee: And admit me, by Thy Grace, to the ranks of Thy righteous Servants." (27:19)

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# LIST OF ABBREVIATION

| | |
|---|---|
| AD | Anno Domini |
| AH | After Hijrah |
| BC | Before Christ |
| BCE | Before the Common Era Equivalent to BC. |
| etc. | (et cetera): and so forth |
| ISTAC | International Institute of Islamic Though and Civilization |
| No. | Number |
| Ed. | Editor |
| Saw | Arabic words "Ṣallallāh-u ʿAlayhi Wa Sallam" (may God's blessings and peace be on him) |

# CHAPTER 1

# INTRODUCTION

Windows are architectural openings in the walls of buildings to allow the admittance of light and air, and are often arranged for the purpose of architectural decoration, lightening, and air conditioning. A window sign of human life, wink to the passer-by, eye of the building allowing one to gaze at the outside world without being seen. Place of exchange of words and smell but, also a break in the wall's structural continuity, and thus place of vulnerability, fragility, thermal sensitivity, and leakage. A window may be covered with a screen, grill, glass, or shutters, or left uncovered, depending on surrounding environment and climate. The Eye, the mouth, the nose and the ear concurrently are not only determining features in the buildings' appearances, but also the intermediary which allows the occupants of a building to see, hear and feel the place of which they are part[1] .

To survey the Window and its functional, symbolic and ornamental aspects, a proper classification of types and forms of windows of a period is required. It is also necessary to study the geometric patterns, light and colour [in the stained glass windows] –with reference to the location and function– to understand the symbolic significance. This study attempts to investigate the types, forms, and meaning of window in Islamic Iranian architecture in the period between 17$^{th}$ and 19$^{th}$ centuries (Ṣafavid and Qājār dynasty). In this respect after classification of Iranian windows, five different building have been selected for detailed analytical study which are all

[1] Meiss, Pierre von, *Elements of architecture: from form to place*, (London: E & FN Spon, 1991), 3.

located in Iṣfahān and they dated back to the Ṣafavīd and Qājār dynasty. All the historical dates have been time lined from National Historical Atlas of Iran (1999).

## NOTES ON THE TRANSLITERATION OF ARABIC AND PERSIAN WORDS

In this research the transliteration rules of IIUM both for Arabic and Persian entries, which are presented in the following table, have been followed.

**TRANSLITERATION TABLE**

**CONSONANTS**

Ar=Arabic, Pr=Persian, OT=Ottoman Turkish, Ur=Urdu

| | Ar | Pr | OT | UR | | Ar | Pr | OT | UR | | Ar | Pr | OT | UR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ء | ' | ' | ' | ' | ز | z | z | z | z | گ | – | g | g | g |
| ب | b | b | b | b | ژ | – | – | – | ż | ل | l | l | l | l |
| پ | – | p | p | p | ژ | – | zh | j | zh | م | m | m | m | m |
| ت | t | t | t | t | س | s | s | s | s | ن | n | n | n | n |
| ث | – | – | – | ṯ | ش | sh | sh | ş | sh | ه | h | h | h[1] | h[1] |
| ث | th | th | th | th | ص | ṣ | ṣ | ṣ | ṣ | و | w | v/u | v | v/u |
| ج | j | j | c | j | ض | ḍ | ż | ż | ż | ی | y | y | y | y |
| چ | – | ch | ç | ch | ط | ṭ | ṭ | ṭ | ṭ | ة | -ah | | | -a[2] |
| ح | ḥ | ḥ | ḥ | ḥ | ظ | ẓ | ẓ | ẓ | ẓ | ال | al[3] | | | |
| خ | kh | kh | kh | kh | ع | ' | ' | ' | ' | | | | | |
| د | d | d | d | d | غ | gh | gh | ğ | gh | | | | | |
| ڈ | – | – | – | d | ف | f | f | f | f | | | | | |
| ذ | dh | dh | dh | dh | ق | q | q | ķ | q | | | | | |
| ر | r | r | r | r | ك | k | k/g | k/ñ | k | | | | | |

[1] – when not final
[2] – at in construct state
[3] – (article) al- or l-

**VOWELS**

| | | Arabic and Persian | Urdu | Ottoman Turkish |
|---|---|---|---|---|
| Long | ا | â | â | ā |
| | آ | Ā | Ā | – |
| | و | ū | ū | û |
| | ي | î | î | î |
| Doubled | ي | iyy (final form ī) | iy (final form ī) | iyy (final form ī) |
| | و | uww (final form ū) uvv (for Persian) | uv | uvv |
| Diphthongs | وَ | au or aw | au | ev |
| | يَ | ai or ay | ay | ey |
| Short | ـَ | a | a | a or e |
| | ـُ | u | u | u or ŭ o or ŏ |
| | ـِ | i | i | i |

Persian proper names such as the names of museums and contemporary Iranian scholars are mentioned in the form that appeared in their articles and books. The

names of Iranian kings, dynasties, cities and past scholars have been transliterated according to the IIUM transliteration table.

All the Quranic verses and names of Arabic characters have been transliterated according to their Arabic standard.

## LITERATURE REVIEW

A number of studies have been carried out pertaining to Iranian Islamic architecture, but to the best knowledge of the researcher a study dealing with the present research topic is yet to be undertaken in English. The earlier literature on Persian Islamic Architecture addressed the history, process of development, important places, and monuments. A significant source of this type is a compilation by Arthur Upham Pope in *A Survey of Persian Art*, published in sixteen massive and well-illustrated volumes by Oxford University Press in 1938-39. Among the Persian authentic sources, *Identification of styles in Iranian Architecture* by Mohammad Karim Pirnia is well-known. In addition, *Introduction to Iranian Islamic Architecture*, by the same author, is another reliable source. For better understanding of Iranian Islamic architecture the author classified Iranian buildings according to their types such as Mosque, Houses, Schools and Baths. In the chapter of Iranian houses, he introduces some different types of windows as a significant element in Iranian houses. Moreover, there is an appendix in his book about Iranian doors and windows, which is relevant to the study in view. This book is started with a brief history of window, structures, and their types.

An important literature on *Orosi* is '*Windows Facing Light*', by Mahdi Amrayi. It is a well-produced book containing excellent photographs of *Orosi* from different parts of Iran. The author begins with a short introduction of wood, wood ornament and

different types of window in Iranian architecture, followed by an elaboration of *Orosi*, its design history and different design.

The book, *Wooden Garden: Aesthetic of the Coloured windows*, by Khosro Ehteshami, stresses on the beauty of ornamental arts in Iṣfahān through poetry and literature and in the end of the book there are different images of wooden windows from different parts of Iran.

*Farhang-e Mehraziye Iran* is also a good source. It is a technical dictionary introducing elements from traditional Iranian architecture with some images and elaboration. In addition, a valuable research on the subject is done by Mohammad Ali Parsa in his PhD dissertation titled '*Window in Iranian Architecture: An analytical study of window in Iranian traditional houses of Yazd*' (School of Architecture, Shahid Bheheshti University, Iran, 2012). In this thesis a historical review of the window in Iranian architecture is provided with a special reference to the houses of Yazd. He also deals with theoretical concepts associated with window as well as semantic, functional and blatant aspect of this element. In a like manner, Morteza Kasmayi in *Climate and Architecture* classifies the amount and direction of light in different cities of Iran. And Marco Bussagli (2005) have conducted a brief visual classification of Western window in *Understanding Architecture*.

Some available researches introduce passive cooling system of building in hot arid regions of Iran and give a general elaboration on the size and places of window in different cities of Iran. Among them are *Simulation of Ventilation Strategies of a Residential Building in Hot Arid Regions of Iran* (1990) by Golneshan and Yaghoubi and Studies on Simulations of Passive Solar Buildings (1987) by Yaghoubi and Sabzevari (articles from web of knowledge).

Patterns, motifs and designs give windows decorative face and they can therefore be studied as forms of artistic expression. *Islamic Patterns* (1976) by Keith Critchlow is a useful source for studying Islamic motifs and geometric patterns used in window decoration. It elaborates on various geometric Islamic patterns and discusses their relationship to the Islamic cosmology.

On the aspects of light and colour, A. Javani, Z. Javani and M. Moshkforosh have written 'Studying Relationship between Application of Light and Iranian Pattern of Thought', which was presented at the First International Conference in Colour and Light in Architecture in 2010, at Venice. The study deals, in an analytical-descriptive manner, with the application of light, sources of light, level of light and ways of illuminating the areas of five prominent monuments in Ṣafavīd era. In another paper titled 'Psychological and Spiritual Effects of light and Colour from Iranian Traditional Houses on Dwellers', Honey Arjmandiā, Mazlan Mohd Tahir, Hoda Shabankareh, Mohamad Mahdi Shabani and Fereshteh Mazaheri (2011) have studied psychological effects of light in architecture as well as its spiritual significance in theosophy and Islamic mysticism. Another paper, 'Light Patterns', by M. Piscitelli and presented in the First International Conference in Colour and Light in Architecture in 2010 at Venice offers an interpretation of light patterns related to their purpose in architecture. It is argued that the light plays a leading role and that the architectural structure is oriented in order to produce light or shadow patterns. On the issue of illumination with light and colour, *The Sense of Unity: The Sufi Tradition in Persian Architecture* (1973) by N. Ardalan and L. Bakhtiar is a valuable reference in examining the architecture of Persia as a manifestation of Islamic tradition and demonstrating the synthesis of traditional Persian thought and form.

## PROBLEM STATEMENT

Most of the studies that touch the element of window in Islamic architecture, in English language, deal with its physical/formal aspects and their functionality and benefits from climatic perspective, i.e. speaking of window as an aperture that provides light to the interior and that one could benefit from during the cold of winter or the heat of summer. Some literature have also dealt with place, size and direction of this element in various buildings. However studies that clarify types and forms of window in Islamic architecture of Iran in general, and during the Ṣafavīd and Qājār dynasties in particular, are rare. In this study, the focus is on the state of Iṣfahān, which is a good representative of the architectural style of the two dynasties.

## RESEARCH OBJECTIVES

The main objective of this study is to provide a detailed analysis of the historical windows in the state of Iṣfahān as representative of Islamic architecture in Ṣafavīd and Qājār dynasties. Thus, it intend to:

- Make available a historical background of windows of the period by tracing their forms in the earlier monuments;
- Identify and classify various types of windows based on historic examples available in the state of Iṣfahān;
- Provide a visual classification of the above based on existing historic monuments;
- Extract the local technical terms related to the types and forms of windows from the historical literature, and Develop a comprehensive glossary of terms related to the study;