BALCONIES *CONSIGNED TO OBLIVION* IN IRANIAN
RESIDENTIAL BUILDINGS
THE CASE OF TEHRAN, IRAN

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ABSTRACT

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The present study examines critically the present condition of one of the integral architectural elements; balconies of residential buildings in Iran. Balconies, more than their functional properties serve as a public realm of in-between space, in order to satisfy human physical and psychological needs. Present conditions of the balconies of apartments in Iran-Tehran show that these balconies are *consigned to oblivion* due to their nonfunctional properties and meaningless presence for their users.

Following an overview of the present improper formal and functional conditions of the balconies in Iran-Tehran, the cultural, social, political, economical, geographical and environmental reasons behind them will be underlined. Also the study aims to question the significance and the meaning of a public realm of in-between space of indoor–outdoor, public –private for the domestic life of the Iranian people in dwellings.

In this thesis the matter of losing vitality of balconies and turning to faded components in the urban landscape and the face of the cities in Iran is emphasized.

Therefore, demonstrating the explicit reasons behind disutility of balconies and considering the existing condition of balconies in the society is aimed. Also proving the features which can make it a beneficial semi-open space in domestic buildings and highlighting the crucial role of this element in human life will be underlined.

Keywords: Balcony, Public Realm of In-between Space, Semi-open space, Tehran.

ÖZ

İRAN KONUT YAPILARINDA KENDİ
KADERİNE TERK EDİLMİŞ BALKONLAR
TAHRAN, İRAN VAKASI

Safarkhani, Melody

Yüksek Lısans, Mimarlık Bölümü

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Bu araştırma mimari unsurların değişmez parçalarından biri olan balkonların İran konut yapılarındaki örneklerinin günümüzdeki durumunu eleştirel olarak incelemektedir. Balkonlar fonksiyonel özelliklerinden daha çok umumi bir ara mekân olarak işlev görür ve insanların fiziksel ve psikolojik ihtiyaçlarını karşılayan bir alandir. İran-Tahran'da bulunan apartmanların balkonlarının günümüzdeki durumu göstermektedir ki, bu balkonlar kullanışlı olmayan özellikleri ve kullanıcıları için anlamı olmayan varlıkları sebebiyle kaderlerine terk edilmiştir.

 İran-Tahran'daki balkonların günümüzdeki resmi ve fonksiyonel durumlarının uygunsuzluğunun incelenmesinin ardından bu durumların altında yatan kültürel, sosyal, politik, ekonomik, coğrafi ve çevresel nedenlerin altı çizilecektir. Bu araştırma, konutlarda yaşayan İran halkının ev yaşamı için umumi ve özel, yapı içi ve dışı bir ara mekân alanının önemini ve anlamını sorgulamayı hedeflemektedir.

Bu tezde balkonların kaybolan canlılığı; kentsel peyzajın ve İran şehirlerinin çehrelerinde solan ögelere dönüşumleri vurgulanmıştır. Bu sebeple balkonların yararsızlığı arkasındaki aşikâr sebeplerin gösterilmesi ve toplum içerisinde balkonların hâlihazırdaki durumunun göz önüne alınması hedeflenmiştir. Ayrıca balkonları evsel binalarda yararlı bir yarı açık alan haline getirecek unsurların kanıtlanması ve bu ögenin insan yaşamındaki elzem rolünün altının çizilmesi vurgulanmıştır.

Anahtar Kelimeler: Balkon, Umumi Ara Mekan Alanı, Yarı açık alan, Tahran

To the one called as "The only best friend"

ACKNOWLEDGEMENT

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INTRODUCTION

"It's pleasant to be on a *balcony* in the open air and, for a moment, to forget that room where the scent of flowers, the chatter, and the music were making your head churn. A summer night, so soft and still that you think you're in love."

P.Modiano.1969. *Night rounds*

1.1. State of Art: Balcony as an Architectural Element

"'Space' is the space in which things can happen, in which living things can be." (Day, 2004, p. 105) Lived Space provides the main aim of its existence, while unused space is a forgotten space due to lacking any beneficial properties.

Drawing on this conception of space; the "balcony" – as an intermediary space between open and closed – will be examined. The primary feature can be termed as a link between indoor and outdoor space – an interface between two distinct areas as well as being a "transition zone" between them. In other words, it represents an in-between space that suggests the gradual passing between public and private, individual and collective spaces. Indeed it gives people spatial separation but maintaining visibility in both directions. Similar to the window, the balcony works as a "buffer zone" which separates interior and exterior. Indeed it can be regarded as the semi-open space with particularities that improves the spatial value of dwellings. (Soleymani, Kasha, and Nahanje, 2011, p. 1) As Sigfried Giedion states in his book titled *Befreites Wohnen,* "the balcony is an architectural element which is applicable universally with the beneficial features

like transferring light, air, and openness in domestic buildings." (Giedion, 1929, p. 82) In Salehi Amiri point of view, the aim of the design of such places in domestic buildings is to allow the provision of leisurely activities while enjoying natural light and fresh air. (Salehi Amiri, 2007, p. 8) From the inside of the building, the balcony is an open space for breathing and viewing the outer space as well as being a factor to adjust the indoor temperature and radiation. Also, balconies are seminal in providing pleasurable areas for buildings and having an active role in dynamism and liveliness of the indoor atmosphere. Openness is the strong aspect of the balcony as a semi-open space, which is significant in today's cities. Moreover, with the common trend of large-scale housing blocks, people are forced to live in small-scale high-rise apartments, where the balcony may provide fulfilment of a need for the sense of openness.

Fresh air and Natural light are a necessity for life and vital for good health, making it even more essential to be in touch with open spaces, to keep the mind, body, and soul healthy and functioning. (Day, 2004, p. 59) The Dehkhoda Persian Dictionary defines the balcony as "An architectural element that defined as a platform projecting from the wall of a building, supported by columns or console brackets, and enclosed with a balustrade, usually above the ground floor and opened on three sides." (Dehkhoda, 2006) So the balcony provides this need of human being in dwellings. Referring to the reasons behind the existence of balconies, in the book titled as *A Pattern Language* authors pointed out about having a connection between inside and outside. If people cannot walk out from buildings to places which touch outdoor space and people in outdoor cannot have any inductor with a building there is no sense of being intertwined between public and private areas. According to authors From both points of view of people outside and people inside, there should be an intermediary space that visually connects the various spaces yet maintains the original physical character. With this explanation they paid less focus on the functional property and focused rather on the psychological significance of balconies. (Alexander, Ishikawa, and Silverstein, 1977, P. 778)

The balcony is one of the most significant elements in the scope of domestic architecture. It is a formal and functional trope from traditional architectural design carrying a clue to the human need of indoor-outdoor connection. Due to this basic need, balconies have been repeated over time and have become an integral element in modern architecture too. As Gideon explains, "the 'new architecture' has unconsciously used these projecting 'balconies' again and again. Why? Because there exists the need to live in buildings that strive to overcome the old sense of equilibrium that was based only on fortress – like incarceration." (Giedion, 1995, P. 147)

"The present pattern suggests that the need is completely general: very plainly, it is fundamental, an all-embracing necessity which applies to all buildings over and again." (Alexander, Ishikawa, and Silverstein, 1977, P. 778)

Elspeth Probyn in her book entitled Outside Belongings stated that her childhood was in a city with depressive architecture that enclosed the residents in buildings and did not allow them to be in contact with other people. By using the example of Montreal city as intriguing one, because of existing balconies on façades of buildings facing the streets, she clarifies that the kind of architecture influences the manner and behaviour of inhabitants with each other in society. She specifies the balconies as a place where life is conducted and states that;

"From balconies early incarceration as outside parlors, people continue actually to live on them: television sets are installed outside, as well as armchairs sofas herbs flowers or entire vegetable gardens radios awnings and curtains the whole resembling a tent city without the veil of canvas on upper floors above busy city streets." (Probyn, 1996, p. 4)

Accordingly, when people are in their residential balconies spending leisure time or conducting daily activities, along with using the natural light and fresh air, they are in connection with the people in the streets. By expanding on the issue of defining balcony the importance of balconies as social connectors in a city has become apparent. (Probyn, 1996, p. 4) On the other hand, from the outside, living on balconies draws new frontiers. The balcony is one of the first elements to come into an observer's sight, due to its elevation. It is a symbol that introduces the

building first and is considered as a tool which gives validity to a building. An accepted academic definition would be to understand the balcony as an element which is located outside on the facades it is cellular and isolated, the balcony sometimes plays like a mixture of public and private, inside and outside. (Avermaete, Koolhaas, Boom and Amo, 2014, p. 803) In this regard, balconies contribute to the vitality of the city by being a major discernible part the facades of domestic buildings, with a crucial role in the perspective and vision of the city. Additionally, they serve as a platform for participation of the individual within the urban collective, almost working independently of the building itself.

As architectural researchers, Sara Soleymani, Yahya Kasha Nahanje, and Elham Sadeghian stated that the needs of human referring to psychological and personal characteristics are constant and just differ in forms by passing the time.(Soleymani, Kasha Nahanje, and Sadeghian, 2011, p. 1) Also, Christopher Day pointed out;

"Neither past nor future means anything on their own. Future grows out of, is fed by, the past; and the past is always inspired by future. Development, whether buildings or any other aspect of the place, if aligned with this continuum, will 'fit' timelessly in place and time." (Day, 2004, p. 16)

Being in touch with the outer environment is a fundamental psychological and physiological necessity of human life. People tend to have a connection with the world outside of their dwellings, where balconies are designed for an outdoor ambient purpose, providing residents with great enjoyment and direct access to fresh air and the outdoors, occasionally termed as an "outdoor room." Balcony as a space in a building with the ability to connect the inside to the outside and allows access to the exterior while fulfilling the social, functional and psychological needs of their users, has other counterparts or in other words similar transition spaces. Use of illustrations will define Juliet Balcony, French Balcony, Terrace, Veranda, Loggia, Deck, Portico, Porch, Sundeck, Patio, Gallery, Streets in the Sky, Maeniana, Parlera, Hourd, Breteche, Jharoka, Mashrabiya, Xi Shi

railing, and Iwan. Drawing brief parallels with such spaces can help map the evolution and execution of balcony as an architectural element.

Hence the importance of the existence of such spaces in dwellings and the beneficial features they have in residential buildings is important, the lack of correspondence between balconies functional properties and the way Iranian people use their domestic balconies is a problematic issue and studying and garbing attention through this matter is worthwhile.

1.2. Problem Definition: Balcony as a Space *Consigned to Oblivion* in Residential Buildings in Tehran, Iran

With the arrival of modernity in early 20th century, changes in building typology in Iran were accompanied by the introduction of new materials and equipment. This led to balconies being appeared to existing in facades of dwellings in Pahlavi era (1925 – 1979) and using the balcony as a public realm of in-between indoor and outdoor became common. (Kiani, 2004, p. 241) Before the Pahlavi era of the mid-20th century, the Qajar period (1785 –1925) coincided with the 19th-century industrial revolution in Europe, which became evident in changes in the buildings, beginning with minor modifications and growing to larger changes over a period. The existing introverted architecture in the Qajar period in Iran, underwent minor changes due to imitation from European postcards while retaining its introverted characteristics, by controlling the façade openings and interior-exterior connections.(Dehban and Dehban, 2010, p. 13) Subsequently, the evolution of modern architecture in Iran during the Pahlavi era was accompanied by changes in the political, social and economic process of the society, resulting in a substantial impact on the capital city and causing transformations. It seems that the introduction of extroverted urban architecture against the more introverted traditional Iranian architecture acted as the main factor that altered the architectural content of the period. Among all factors, this change was the most

important factor due to changing sociocultural insights – mainly because of government intervention and subsequent acceptance by the public.

Architecture and culture influence each other and until architecture begins corresponding to the prevalent culture and customs. But if architecture moves against the cultural aspects of human life it might lead to its inutility. (Qobadi, 2014, p. 2)

Drawing on this conception, Akin to the entrance of balconies, the introduction of various cultural features into Iranian architecture with modernity, disrupted the unique urban view of the cities in Iran. As Christopher Day pointed out;

"There is considerable danger in transposing ideas from one culture, one landscape, to another. Even 'simple' concepts like freedom, rights, and responsibilities vary from country to country. Buildings suitable for the Maine climate don't function well in Florida. Styles appropriate in Surrey don't fit in Midlothian." (Day, 2004, p. 13)

Although there is the countless contribution of balconies to daily life, in the case of Iran there is not adequate attention to what they are, why they exist and what functional features they represent. In this sense, the study considers the balcony as a forgotten space which does not supply its specific functional properties and has a meaningless presence for its users.

The "balcony" has confronted many problems and difficulties in the several decades of Iran's modernization. Lately, it has been the subject of neglect by many architects, despite its importance as a formal and functional architectural element. This neglect is evident in the many unappealing formal protrusions of many modem buildings today. Modern balconies are only constructed as a crude expression of outward or inward space. They are repeatedly used as small storage spaces for houses, and their residential role has been forgotten, as seen in Figures (1-12). Thus, the apartments in a miniaturized process compared to houses, are considered incomplete. In several decades of modernization which is accompanied with the rise of urbanization and changes in the buildings' structure types, the balcony became an integral element in the design of residential

buildings in Tehran, evolving as a symbol of modernization in Iranian housing architecture, evident in every residential building. However, even today there is still no better usage or functionality for balconies – terming it a useless residential space. Balconies do not serve their functional properties as a space to fulfill the need of establishing a "private outdoor space." Although there are countless contributions of balconies to life, as well as providing relief to the congested enclosure by expanding the living space, there are still several inappropriate sub-roles for the balconies which have evolved over time. Many balconies are transformed into junkyards, filled with waste material, pickle jars, ladders, empty cartons, in addition to a place to hang wet clothes to dry. They are also the abode for locating heating appliances, air conditioners, and satellite dishes in balconies, although providing a modern usage, nonetheless diminishing their role in dwellings. By considering the prevalent situation of balconies, it is clear that they are used as storage spaces instead of being utilized as lively and usable residential zone.

An additional, yet rather unfortunate practice entails, covering the balconies with plastic or wooden sheeting or fabric. This method worsens the formal and functional usage of the balcony, where the balcony is defined as the closed warehouse of the apartment. The impact of such practices leads to Exterior deterioration visible to the general public visual. It means it is a reason for the functional confusion of the residents, as well as passing-by pedestrians who visually interact with such spaces. ·

Figure 1 & 2: Misusing of Balconies in Tehran

Source: http://www.peykeiran.com

(Last retrieved on 16 September 2015, at 10:15)

Figure 3: Misusing of Balconies in Tehran
Source: http://www.peykeiran.com
(Last retrieved on 16 September 2015, at 10:15)

Figure 4 & 5: Misusing of Balconies in Tehran
Source: http://www.peykeiran.com
(Last retrieved on 16 September 2015, at 10:15)

Figure 6 & 7: Misusing of Balconies in Tehran
Source: http://www.peykeiran.com
(Last retrieved on 16 September 2015, at 10:15)

Figure 8 & 9: Misusing of Balconies in Tehran
(photos taken by author)

Figure 10: Misusing of Balconies in Tehran
Source: http://www.peykeiran.com
(Last retrieved on 16 September 2015, at 10:15)

Figure 11: Misusing of Balconies in Tehran
Source: http://www.zamoune.com/
(Last retrieved on 16 September 2015, at 11:00)

Figure 12: Misusing of Balconies in Tehran
Source: http://www.zamoune.com/
(Last retrieved on 16 September 2015, at 11:00)

1.3. Aim of the Thesis

This study accounts for as a part of an investigation into the reasons behind the balcony's formal and functional problems in today's Iranian society. The study aims to refer to social, historical, cultural, political, economic, geographic and environmental frameworks to understand the reasons behind the functional problems of today's balconies in residential buildings of Tehran. Finally, observations will be gained in the case of Tehran city. The capital city of Iran, as well as the center of all the great changes in Iranian society, is opted as a case to identify both specialties and functions of balconies in today's situation.

As mentioned above, Iranian society underwent a change after the constitutional revolution and advent of modernity in early 20th century; followed by large-scale industrialization and emergence of the state government in managing the country.

As a result, the earlier balance between rural and urban population changed, especially regarding capital accumulation. This led to irregular growth in the metropolitan area and populace, an occurrence against the entire history of Iran – Tehran being at the epicenter of these transformations. (Qarib, 1995, p. 36) By

creating new changes, the figure of Tehran city began to play a role with different images. By injecting new elements of modernity, such as balconies and openings to the outer space, the city architecture became more extroverted and began the usage of a new architectural language. (Kiani, 2004, P. 255)

1.4. Methodology of the Thesis

Since this study focuses on the crucial role of balconies in Iranian dwellings and its function in domestic buildings; as a departure point, the study will begin by investigating explicit information about the balcony itself. The term balcony will be defined in a more detailed and precise manner, through an in-depth literature and photographic review of balcony terminology, usages, and functions in general in the world. Additional to the review will be a formal and dimensional categorization of similar spaces to the balcony and indicate the reasons for the importance of such semi-open spaces in domestic architecture. Before examining balconies in modern Tehran, general information about Tehran and its socio-political context, ideological tendencies of ruling powers, arrival of modernity will be discussed. Additionally, the consequent socio-spatial transformations from those mentioned above along with changes in architecture and urban planning of Tehran will be explored further.

Therefore, this study covers Tehran the capital city of Iran which has been at the center of changes taking place in the Iranian society. Tehran serves as a case to identify both specialties and functions of balconies in the contemporary case, as well as discerning information about its practical usage and user attitudes. In essence, the main aim of this thesis is to analyse the functional features of balconies in residential buildings of Tehran, on its political, social, cultural, geographical and economic aspects.

CHAPTER 2

LITERATURE REVIEW OF SOURCES REGARDING BALCONIES

2.1. General Definition of Balcony: Structural, Functional, and Architectural

The "balcony" is an architectural invention. It is important regarding aesthetic character and function, as it provides buildings with a certain appearance and conveys a particular purpose. Balconies are one of the important groups of elements in the realm of architecture components and used by architects all over the world throughout the history. They have existed since ancient times and represent one of the requirements of dwelling in civilized cities. Also, their contribution to the vitality of the city is apparent, especially by being located in the facades of domestic buildings and playing a crucial role in the perspective, landscape, and skyline of the city.

According to Dehkhoda Persian online Dictionary, the balcony is a projecting platform from the facade of a building. Columns or console brackets are the supporters of this architectural element which is enclosed with a balustrade, usually above the ground floor, and it can work as a ventilator, a place for rest and the interface between indoor and outdoor. Its origin is from Italian: balcone and Old High German balcho; probably cognate with Persian term bālkāneh or its older variant pālkāneh. (Dehkhoda, 2006) It may also be understood as a horizontal surface projected to the outdoors with a walking surface. However, it typically exposed to the outside and is not located over an enclosed living space below. They are designed for an outdoor ambient purpose, providing residents with great enjoyment and direct access to fresh air and the outdoors. In Oxford English Dictionary the balcony is defined as "a platform enclosed by a wall or

balustrade on the outside of a building, with access from an upper-floor window or door." (Oxford, 2016) According to Oxford Dictionary, The origin of the name balcony is in early 17th century, from Italian "balcone" with probable Germanic origin. (Oxford, 2016) In Merriam-Webster dictionary, the word balcony is defined as "a raised platform that is connected to the side of a building and surrounded by a low wall or railing called as a balcony." (Merriam-Webster, 2016)

"Balcony" in British English defined as an area with a wall or bars around it that are attached to the outside wall of a building on an upper level. And "balcony" in American English means a narrow floor usually with sides or bars that joined to the outside facade of a building above the ground. Balcony, an external extension of an upper floor of a building, enclosed up to a height of about three feet (one meter) by a solid or pierced screen, by balusters, or by railings. In the medieval and Renaissance periods, corbels made out of stonework, wooden and stone brackets. Since the 19th century, supports of cast iron reinforced concrete, and other materials have become common. The balcony space serves to enlarge the living space and range of activities possible in a dwelling without a garden or yard. The balcony is partly responsible for providing both sunshine and shelter or shade for apartments. A balcony allows a greater movement of air inside the building, as the doors opening onto it are usually louvered. (Encyclopædia Britannica, 2016)

In an architectural definition of the balcony; a balcony is a supported exterior protrusion on a building's facade above the ground floor typically large enough for a few people to stand. It may be covered or uncovered by a roof, awning, or the floor of a balcony above it. (Craven, 2016) A place where people can stand just outside an upper window. It sticks out from the wall of a building. (Macmillan Dictionary, 2016) Indeed a balcony is a porch or platform that extends from an upper floor of a building Most balconies have railings around them to protect

people from tumbling off, and many balconies provide an impressive view. (vocabulary.com, 2016)

According to the definitions submitted in different dictionaries, balconies are projected architectural elements from walls of buildings, but balconies can be seen in various forms. For instance, the balcony can be a result of subtraction or addition of a volume. The facade of a building consists of a singular balcony which can be flat without any protrusions or indentation and has just one side open.
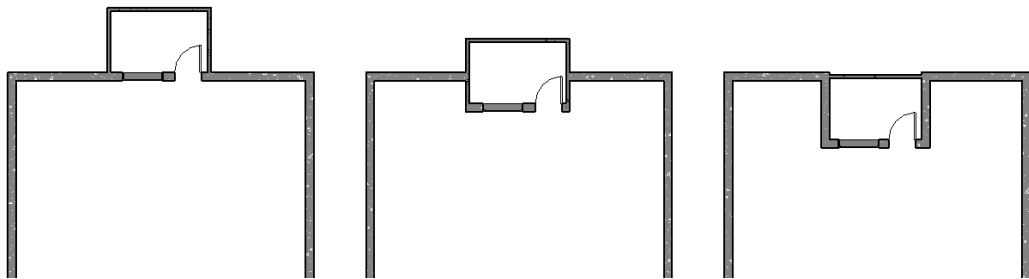
Figure 13: Types of Balconies Placement in a Housing Plan (prepared by author)

In a more literal and functional description, balconies are defined as structure projection from the face of a building, generally 3 to 4 feet, and typically do not include a roof structure above. (Dominique & others, 2012, p. 2) Also, Balconies are placed one floor above the ground floor and kept opened on three sides. Also, balconies occasionally termed as an "outdoor room." They are supported by metal outriggers or brackets, which also convey a decorative aesthetic. Balconies were meant to be exterior open spaces and can significantly alter the appearance of buildings in an urban area, additionally being a great opportunity for architectural expression.

Balconies, as an in-between space dividing open and closed space, private and public, indoor and outdoor; are an interface between two distinct areas as well as being a transition zone between them. They represent a blend of public and

private space, giving people spatial separation but maintaining visibility in both directions.

Also, balconies represent a space that prevents from sudden transitions and entrance to a new location – suggesting the concept of gradual passing – therefore can be termed as a "virtual transition" space. From the inside of the building, the balcony is an open space for breathing and viewing the outer space. This is the substantial aspect of the balcony as a semi-open space which is significant in today's polluted cities. Similar to the window, the balcony works as a "buffer zone" which separates the interior and has a crucial role in modifying the indoor thermal condition. Additionally, they are not bound by a particular shape, form, color or size, since all the features come together to define its role as a lively living space.

In an architectural researcher; Mok Chia Wei's words, the balcony is an "offspring of the window." He pointed out that;

 "The balcony is, however, more than an extension on the face of a building. It is living space. Like its parent, the window, the balcony links a building's inside to the outside. But here, the similarity ends. The balcony is more than a link or an interface. It is an intermediate space, a relief to the suffocating enclosure and provides an opening for light and ventilation which gives it a sense of spaciousness."[1]

In this essence, the balcony is a mediator between interior and exterior, between individual and collective, between private and public realms. In general, from the outside, the balcony comes into an observer's sight first because of its elevated location. It is a symbol that introduces the building and is considered a tool which gives validity to a building. Balconies are known as one of the most visible elements of a building; they are essential elements in determining the building's style and play a significant role in its appearance and

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[1] Cited from an article about Singapore balconies by Mok Chia Wei, Final Year student at the School of Architecture, National University of Singapore.

that of the streetscape. (Dominique & others, 2012, p. 4) The synergy of shared public space begins to make sense in spaces such as a balcony, and a region of a town with pleasant balconies is usually a district worth celebrating. They can also serve as a platform for participation of the individual within the urban collective, almost working independently of the building itself.

Historically, balconies were an outside room where property owners could find a sheltered transition into their buildings, exterior living space, and a place to meet and converse with neighbors and welcome visitors. "Privacy and participation" is a term used by Grant Hildebrand for an in-between space in a house which is the indicator of a bond between outside and inside. He also mentions that privacy problems and social connections are resolved in the designs with such places. Pedestrians with no chance of being intertwined with the resident cannot intrude on the privacy of a house, while the dwellers of a house with the help of the elevated platform in their house can have a link to the outside environment and community life of the street. (Hildebrand, 1970, p. 4)

Using the public realm of in-between in residential buildings is based on human need – a need which is instinctive and fundamental. Being in touch with the outer environment is a fundamental psychological and physiological necessity of human life. According to Alexander People tend to have a connection with the world outside of their dwellings, while those who endeavor to disconnect with the outside and eliminate chances of relating to the public outdoors exhibit certain symptoms of emotional disorders.(Alexander, 1967, pp. 60-102) Alexander develops this observation by indicating that, being in a leveled place such as a balcony is a clue to the need of human being to those locations in his or her life.

"The instinct to climb up to some high place, from which you can look down and survey your world, seems to be a fundamental human instinct." (Alexander, Ishikawa, and Silverstein, 1977, P. 316)

Balconies with glass doors give the impression of merging the inside with the outside environment. In a poetic sense, they eradicate the feeling of incarceration of homes – representing windows onto the world connecting with the openness and the light combined with fresh air giving the sense of sailing in the frequent breeze. Using the natural light on sunny days without the need of going out of the residence is another advantage of balconies in residential buildings. The esteemed architect, Koolhaas credited his life to the balcony by these sentences;

"Without my parent's balcony, I would not be here. They lived on the 5th floor of a new social democratic walk-up. Born in the last months of the war, a cold but very sunny winter, when everything that could burn had been burned, I was exposed to the sun, naked, every possible second to capture its heat, like a mini solar panel." (Koolhaas, 2014)

Figure 14, 15, 16, 17: Balcony Sketches by Author

It can be called as an ideal location for watching sunsets and an extra room for gathering with people. The balcony can be the outdoor reading room, outdoor dining room as well as being the small yard for the apartments with that lack of yards. It gives the chance of having a small garden adjacent to the home. Alongside providing a pleasant view to the inside of the home, it has an important In Craven words "The word balcony evokes romantic images—quiet relaxation, summer breezes, privacy, solitude, and to-die-for views". (Craven, 2016)

It becomes the urban oasis and an important instrument in creating a feeling of community. Alexander by these words accounted the role of the balcony as a green space; "There is a need for one, at least which puts the people in the house touch with the world of the street outside the house, this pattern helps to create a half-hidden garden and gives life to the street." (Alexander, Ishikawa, and Silverstein, 1977, P. 665)

Also, the significance of balcony in providing safety of residents in case of fire or another dangerous occurrence is apparent. It can be called the hidden role of them in residential buildings. People by being in balconies can be away from the smoke of fire inside of the house and get help from the leaders of firefighters for rescue.

Figure 18: Balcony as a Lively Space, Lucca, Italy. (Photo taken by author)

Figure 19: Balcony as a Lively Space.Ankara, Turkey.

Figure 20: Balcony as a Lively Space. Viareggio, Italy.

(Photo taken by author)

Figure 21: Balcony as a Lively Space. A woman sitting on a balcony like a small

garden of a flat and spending the leisure time.

source: https://www.pinterest.com/explore/balconies/

(last retrieved 10 may 2016, at 16:00)

2.2. Balcony in Art and Literature

The balcony is an architectural element which has maintained a remarkable reputation in art and literature. The exclusive properties of balconies have been the inspiration for painters and poets throughout history. In literature, there are poems and numerous scenes of plays related to the balcony. On the other hand, the beloved has always been indoors and to be seen, she has to appear on the balcony. To this end, the lover is always going towards the balcony to pray for the marriage and also find an opportunity to see the beloved one. Therefore, the balcony goes beyond the architectural element and turns into an element for connecting lovers in the shadow of the divine. The illustration of this kind of literature can be clearly found in the Iranian miniatures as well as paintings of famous artists.

In a stereotypical image, girls or young women confined to the domestic space, lean and preen against the railing in longing for a man or for the outside world in general. The trope climaxes in the song dynasty (960-1279), when their visits to courtesans inspire poets, and solace sought at the balcony. Female song poets such as Qiang Zhao Li, Shenzhen zhu, yuniang zhang, lady wei and lady yanrui portray the beauty railing as a scape from confined living quarters, where their movements were restricted.(Avermaete, Koolhaas, Boom and Amo, 2014, p. 840)

Figure 22: Ford Madox Brown (1821–1893).*Romeo and Juliet*

Figure 23: Édouard Manet (1832–1883).*The balcony*.

Figure 24: Oscar Bluhm (1867–1912). *On the Balcony*.

Source: https://en.wikipedia.org/wiki/Balcony

(last retrieved on 12 December 2015 at 18:28)

Figure 25 & 26: Balcony in the Miniature

Source: http://www.drelahighomshei.com/34_db.aspx

(last retrieved on 12 December 2015 at 18:28)
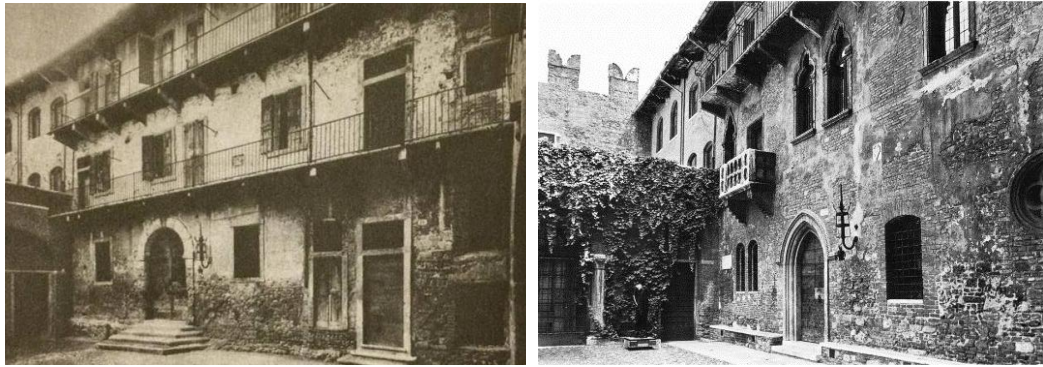
Figure 27 & 28: Juliet House Before and After Adding the Balcony,

Juliet House on Via Capello

Source: https://politicworm.com

(last retrieved on 12 December 2015 at 18:28)

Additionally, one of the famous uses of the balcony is the traditional staging of the scene that has come to be known as the "balcony scene" in William Shakespeare's tragedy *Romeo and Juliet*. Even though the poet had used a window instead of balcony, the balcony emerged as a symbol of the play, where in the 1920s it was taken from another house from the same period and then attached to the Juliet House In Verona, Italy. (Cowell, 1993, P. 4) Today, the balcony is added in modern times in a wrong place over the front door, to satisfy the demands of tourists. Every year tourists come to see the balcony which was assigned to Juliet's house – the house on Via Capello, which was named her house 300 years after the play was written. The house as the legacy of the great work of Shakespeare has been preserved as a legendary heritage by the citizens.

The carnival and religious ceremonies which took place In Venice was one of the important events for citizens. Moreover, the battle of Venetian army known as Guerra di Bastoni, or War of Sticks taking place on the bridges of the city was another amazing action for public. People try to have the most appropriate spaces for having excellent views to the scene of play. In this situation, balconies which were placed in upper levels and facing the public spaces become an opportunity for their landowners. They sold tickets for seats of their balconies to who wants a good view of the action. (Avermaete, Koolhaas, Boom and Amo, 2014, p. 844)

The people who stand on the balcony watching the battle is painted by an artist as seen in figure (29).

Figure 29: Venice, Bridge of Pugni.

Source: http://www.kunstkopie.de/a/artist-artist 1/venedig_ponte_dei_pugni_.html

(last retrieved on 12 December 2015 at 18:28)

Ettore Tron and Alvise Michiel were two theatre owner in 1550. The trend of having interior balconies or viewing boxes which were known as *palchi* first was used by these two theatre owners in their two new theatre. The new situation of theatre caused worries for the Jesuits whether this balcony box is appropriate or not because of being isolated and convenient darkness. It was the reason for banning the shows in theatres. Events in the city. As a result, an ultimatum was issued, to keep the candles lit and the privacy doors open, or the theatres will be shut down. Since the patrons did not heed the State's order, the theatres were closed – but it was too late to reject the balcony box. 15 years later, the Tron family built a new theatre with fully operational balcony boxes, which have now become the standard in theatres around the world. (Avermaete, Koolhaas, Boom and Amo, 2014, p. 845)

Figure 30: Venice Opera House.

Source: http://www.diipakhosla.com/venice-photo-diary/

(last retrieved on 13 August 2016 at 18:28)

Figure 31: Theatre in New York.

Source: https://www.timeout.com/newyork/theater/theater-in-new-york-belasco-

theatre-renovation-slide-show

(last retrieved on 13 August 2016 at 18:28)

2.3. Balcony as a Political and Social Platform

The modern balcony came to the forefront with Haussmann's urban renewal of Paris in the mid-19th century, finding a suitable counterpart for the long-stretching boulevards in the balcony archetype. However, rather than sustaining only a functional and aesthetic value, balconies became increasing useful in revising social activities. (Avermaete, Koolhaas, Boom and Amo, 2014, p. 849)

The balcony also became a catalyst in inciting mass movements geared towards freedom and liberty. It increasingly became associated with 20th-century utopianism, continuing a theoretical mode of thought shaped in the 19 th century by socialists such as Ebenezer Howard, Charles Fourier and Robert Owen. The prevalent belief, in this case, was that altering a person's exterior experiences could shape them into a more productive and fulfilled human being. After the widespread acclaim of   balconies used in the Sanitariums, the balcony was appropriated as a tool for socialist tendencies and utopian ideology. (Avermaete, Koolhaas, Boom and Amo, 2014, p. 900)

In addition to being a social platform, in the era of World War I and fascism there was a distortion in balcony usage as a public pole, functioning as the stage for leaders to address the public. According to the text published for 14 international architecture exhibition, Mussolini vitalized these medieval balconies in Italy, and he ordered to construct one wherever he went. (Avermaete, Koolhaas, Boom and Amo, 2014, p. 803) for instance, the balcony of Palazzo del Littorio the headquarters for the national fascist party is an example of being a polirical platform. Prior to that, Giuseppe Terragni designed no singullar balcony for casa del fascio in como. The architect rejected the govermental ideas of having balcony on facades of building. But in palazzo del littorio in 1933 Giuseppe Terragni and his team add a balcony on the facades of building for II Duce. (Avermaete, Koolhaas, Boom and Amo, 2014, p. 874-875)

"Everyone will be able to see him. He is like a God, outlined against the sky; above him there is no one. The entire facade glorifies his power, his genius; standing alone, high above, surrounded by light, he will be visible from all sides

of the great boulevard which is the heart of Rome, the II duce will stand before adorning multitudes; he will belong to everyone, he will be one with every one." (Doordan, 1983)

Figure 32: Palazzo del Littorio, Rome, Italy.
source: http://www.newitalianblood.com/index.pl?pos=01.00&item=11405
(last retrieved on 15 August 2016 at 18:28)

Figure 33: Benito Mussolini on the Balcony.
Figure 34: Martin Luther King on the Balcony.
Source: https://www.pinterest.com/pin/158400111865565268/
(last retrieved on 15 August 2016 at 18:28)

Figure 35: Iranian Diplomat on the Balcony
Figure 36: Turkish Prime Minister Recep Tayyip Erdogan on the Balcony.
Source: http://www.middleeasteye.net/in-depth/features/heros-welcome-zarif-tehran-return-375401217
Source: http://www.dailysabah.com/elections-2014/2014/04/01/an-election-tradition-balcony-speech
(last retrieved on 15 August 2016 at 18:28)

According to the book balcony, Parameters of a balcony with a potential of being a political platform follows a formula which can be influential for having an effective and ideal political balcony. Depending on this formula if the width of the balcony is x, the length of the balcony is x^2, the height of it is x^3, the distance from the balcony to building opposite x^4 and the aural range is x^5. (Avermaete, Koolhaas, Boom and Amo, 2014, p. 878-879)

Anti-fascist movement slogans universalized balconies usages as a political platform. Using slogan like "enough with the balcony" began to convict the fascist regime. (Avermaete, Koolhaas, Boom and Amo, 2014, p. 803) Thus balconies had become a political issue and talking about its function spread throughout the world. However, it is essential to notate, balconies by default are political and need activation to be politicized. In Mussolini's case, the balcony at the Palazzo Venezia became famous as Mussolini's platform. It is from this balcony that on June 10, 1940, Il Duce declared war against France and Britain in front of a large crowd. After the war, that balcony became an embarrassment, finally to be reopened for public visitation in 2011. (Avermaete, Koolhaas, Boom and Amo, 2014, p. 864)

The trend of political balcony spread throughout the world as Hitler for mass spectacle uses the balcony of the hotel which he lives.

Also in Iranian architecture numerous semi-open spaces are projecting from walls of buildings and float and sometimes they are the places, created due to subtraction a volume of building .they were used as king's sitting area while watching the bat game in the playground. This upper location in buildings which give the sense of being superior to public showing royalty and aristocrats were used in almost every empire. These semi-open places were just used in palaces like Ali Qapu palace and not in the dwellings. Nowadays still balcony is a legacy of a political platform. Leaders, politicians use this projecting platform for their speech to the public.

Figure 37: Ali Qapu mansion (1848–96)

Source: http://orujtravel.com/en/attraction/ali-qapu-palace/

(last retrieved on August 2016 at 18:28)

2.4. Balcony as a Healing Space

Parallel to being a political and social platform in the *Balcony* book; Balconies played an ever important role as healing spaces, with the outbreak of tuberculosis. With no known cure for the disease, the botanist Herman Brehmer hypothesized that high altitudes would increase heart rate and be conducive in the fighting of the illness. The hypothesis and subsequent doctoral study led to establishing the world's first Sanitarium in Gobersdorf in Germany, which was a balconied building nestled among trees in Waldenburg near the Austrian border. This resulted in the subsequent sanitarium movement that swept across Europe and North America and introduced a successful integration of the outdoors by means of the balcony. As a result, medical establishments began to treat other illnesses with climatic therapy, with doctors advocating the inclusion of private balconies in new hospital construction, especially in maternity wards to provide new-borns with ample fresh air. In Sanitariums, patients were encouraged to take their deck chairs and sit outside on the balconies, during sunshine and snowfall, regardless of

the weather. It was a successful remedy to tuberculosis, which was caused due to the airless indoor conditions of domestic spaces at that time. (Avermaete, Koolhaas, Boom and Amo, 2014, p. 854)

Figure 38 : Curing patients on the balconies of Hochgebirgsklink, Davos,Switzerland.

Source: Avermaete, T., Koolhaas, R., & Boom, I. (2014). Balcony. Venezia: Marsilio.P, 859.

2.5. Balconies in New Designs

Balcony as an extension of living space in dwellings grab the attention of architects around the world. creating worthy balconies with beneficial features for residents as well as having decent views in cities in terms of urban landscape have been the focus of designers. In this part some of the good designs of balcony around the world will be indicated by using illustrations.

Pool Balcony	
Architects of 37-storey towers in Mumbai used an interesting idea to make their plan more attractive: changing the balconies to aquarium pools called "Aquaria Grande." This project is completed by cooperation with a Hong Kong architect, James Law, and an Indian real estate company named Wadhwa Group**.**	 Figure 39: Pool Balcony. Mumbai. Source: https://www.pinterest.com/pin/52910265 6193231606/ (last retrieved on August 2016 at 12:30)
Tunnel balcony	
When hearing the word balcony, a part of a building which comes out of the building comes to mind. But Yukiharo Suzuki designed a house in Japan that has an underground balcony like a tunnel	 Figure 40: Underground Tunnel Balcony Source: http://mocoloco.com/sukiya-house-by-yukiharu-suzuki/ (last retrieved on August 2016 at 11:50)

Glass Balcony	
Glass Balcony Owners of Willis Tower (Sears Tower) installed a full glass balcony in this tower. Visitors can see under their feet from a height of 1353 feet. According to designers of this balcony, the aim of this project is to create the sense of floating on the city in visitors.	 Figure 41: Glass Balcony Source: http://travel.smart-guide.net/breathtaking-views-seen-from-outside (last retrieved on August 2016 at 13:20)
VM balconies	
Balconies with triangular structure VM house consists of two buildings that are made like letters V and M. One of the most interesting features of the two buildings is that they have triangular balconies like porcupine quills protruding from the building. It is worth to mention that the aim of this design was not just to create beauty, but designing balconies in this shape will provide enough light to lower floors.	 Figure 42: VM Balconies. Copenhagen, Denmark. Source: http://www.dac.dk/en/dac-life/copenhagen-x-galleri/cases/vm-buildings/ (last retrieved on August 2016 at 13:30)

Block Balconies	
An architectural team named Ofis Arhitekti won the national plan for designing two buildings in Slovenian coastal area called Izola. Each of these building consists of 30 units; from small suites to 3-bedroom apartments. One of the interesting ideas in this project is using block balconies. These balconies have external structure elements so that residents can use them as an extra space for living. Apartments in this complex are small so using balcony as a part of home is a fascinating idea.	Figure 43: Block Balconies. Source: https://www.pinterest.com/pin/52748417 5083275090/ (last retrieved on 15 August 2016 at 18:28)
Teacup Balconies	
Teacup Balconies are built for advertising teas that are produced by Niimi Company in Japan.	Figure 44 :Teacup Balconies. Source: https://www.pinterest.com/ChildofYeshu a/architecture/ (last retrieved on 15 August 2016 at 18:28)

Bloomframe	
A Bloomframe, designed by Hofman Dujardin and produced by Alcoa gives users the possibility of using the surface of an apartment to the maximum. Utilizing from The Bloom frame in an apartment block looking remarkably like Transforming Window Attachment Turns To Balcony In Seconds.	Figure 45 : Bloomframe. Source: http://www.likecool.com/BloomFrame--Building--Home.html (last retrieved on 15 August 2016 at 15:00)
Forest Balconies	
Boeri Studiodesigned the vertical forest the name of the pair of residential towers in Milan, Italy. With the 10,000 square meters of vegetation, has both beneficial features in terms of climate for dwellers as well as urban environment.	Figure 46: Forest Balconies of Residential Buildings in Milan. source: https://en.wikipedia.org/wiki/Bosco_Verticale (last retrieved on 15 August 2016 at 21:28)

Table 1 :Balconies in New Designs

2.6. The Meaning of Public Realm of In-Between Space of Indoor– Outdoor, Public –Private in Architecture

Balcony as a space in a building that can connect the inside to the outside and allows access to the exterior has other counterparts such as Juliet balcony, Terrace, Veranda, Loggia, Deck, Portico, Porch, Gallery and Streets in the Sky, as evident in the following diagram. But the balcony's "cantilever and cellularity make it unique, an individualistic, private space suspended above the public and collective realm". (Avermaete, Koolhaas, Boom and Amo, 2014, p. 816)
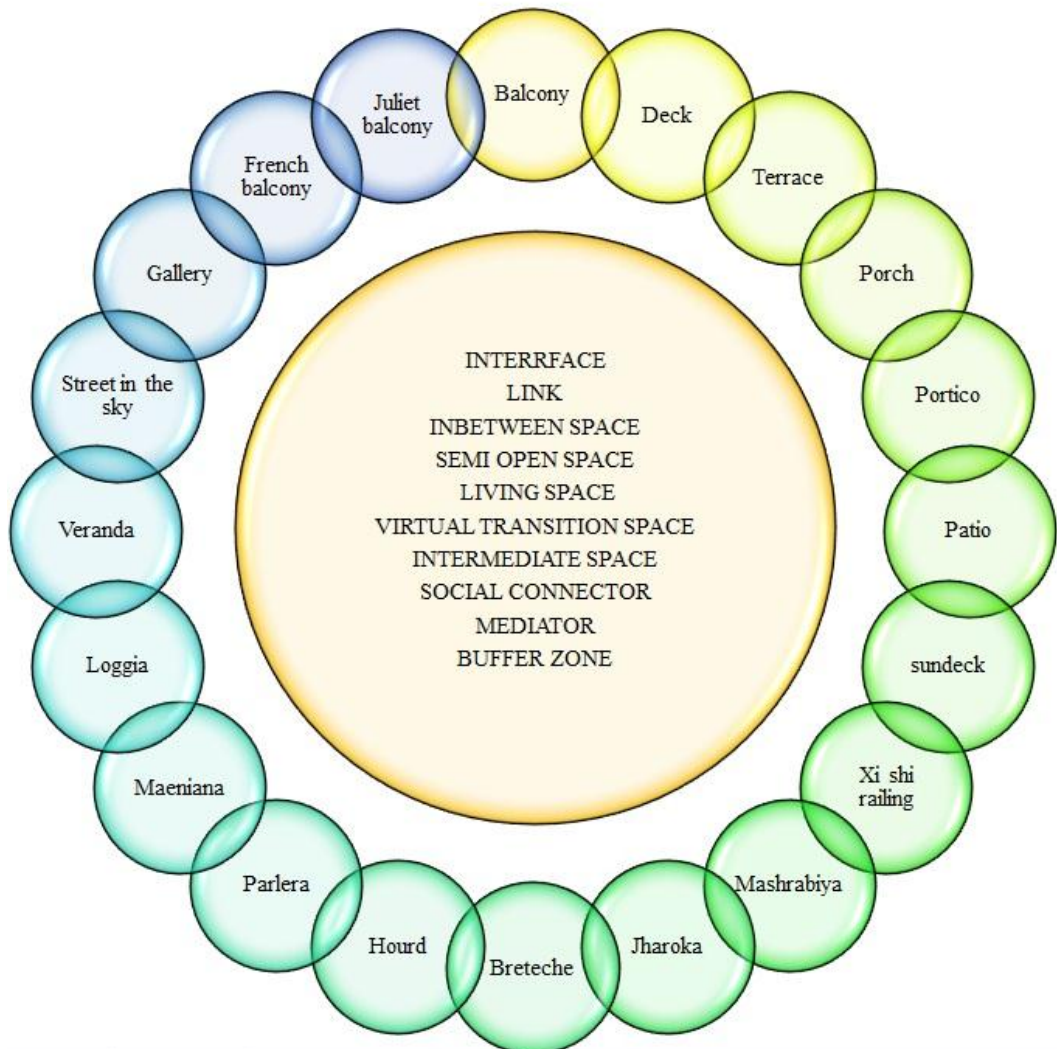
Figure 47: Diagram of Balconies Counterparts. prepared by Author
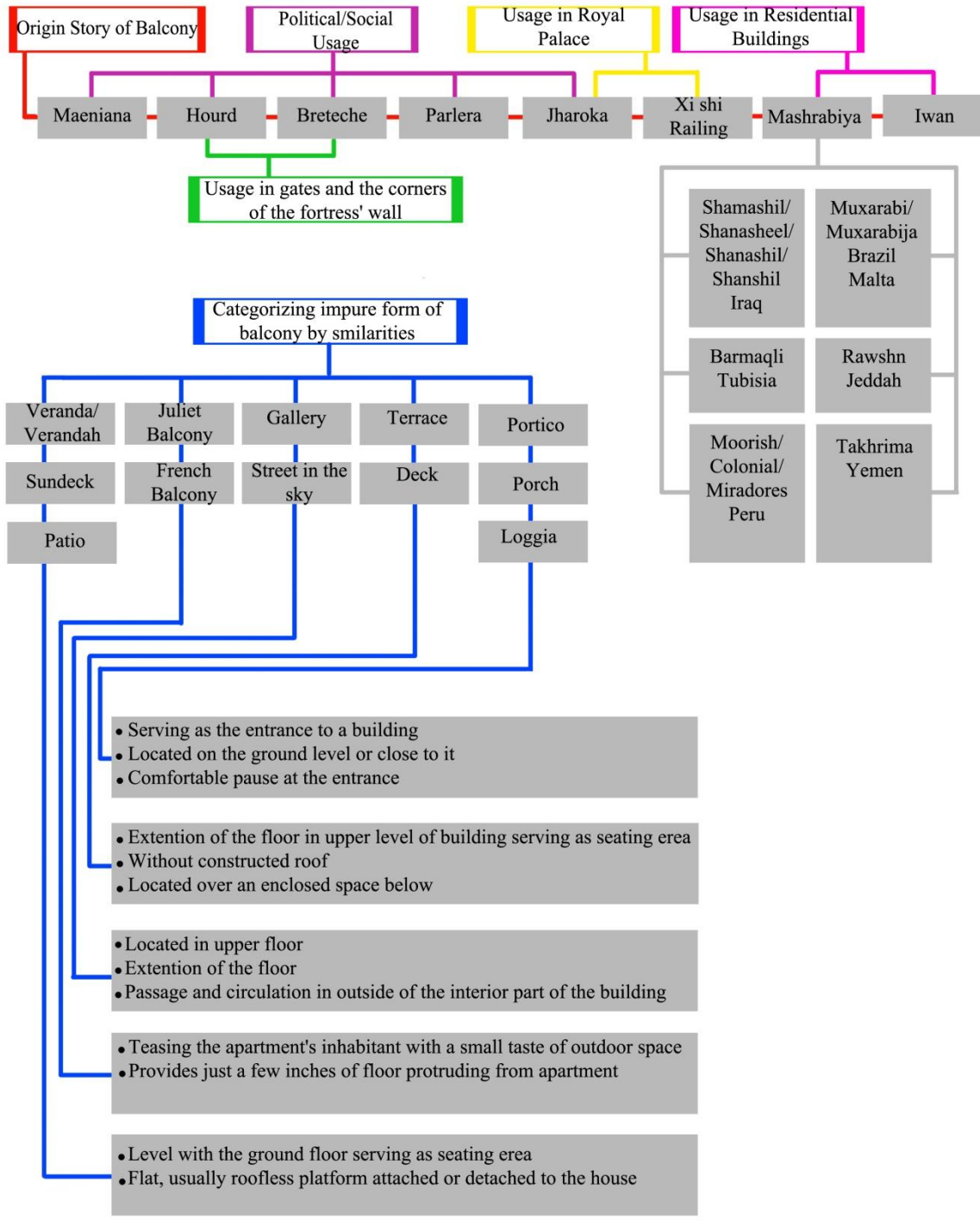
Figure 48: Diagrams Of Balconies Counterparts Relations. prepared by Author

2.6.1. The Origin Story of Balcony

Maeniana
According to the book *Ten Books on Architecture* by Marcus Vitruvius, the initial idea of having balconies in Rome was in the shape and form of Maeniana. Maenius was the person who made the first cantilevered balcony, by extending the roof and changing parts of his home to the platform for watching the gladiators battle."Maenius took the right for himself to a single column, above which he extended a roof out of sliding plants from where he and his descendants could watch gladiatorial games which even then were given in the forum" (Welch, 2007, p. 32) The use of such places provided real estate opportunities and revenues since they sold tickets for the seating area of Maeniana for watching the battles, a trend that quickly spread throughout the empire. There is another source for the word Maeniana. In the book The Roman Amphitheatre, the author claims that the term refers to the row of seats in amphitheaters, which was named after Maenius, the censor. "They are called Maeniana for Maenius the censor who was the first to extend wooden beams in the forum beyond the columns so that the upper spectacular could be enlarged" (Welch, 2007, p. 33)
Figure 49: Maeniana in Colosseum Source:http://archeoroma.beniculturali.it/sites/default/files/brochure_colosseo_UK.pdf (last retrieved on 10 may 2016, at 16:30) Figure 50: A Maeniana in a House in Ancient Pompeii Source: http://www.ancient-origins.net/ancient-places-europe/houses-pleasure-ancient-pompeii-001925 (Last retrieved on may 2016, at 16:00)
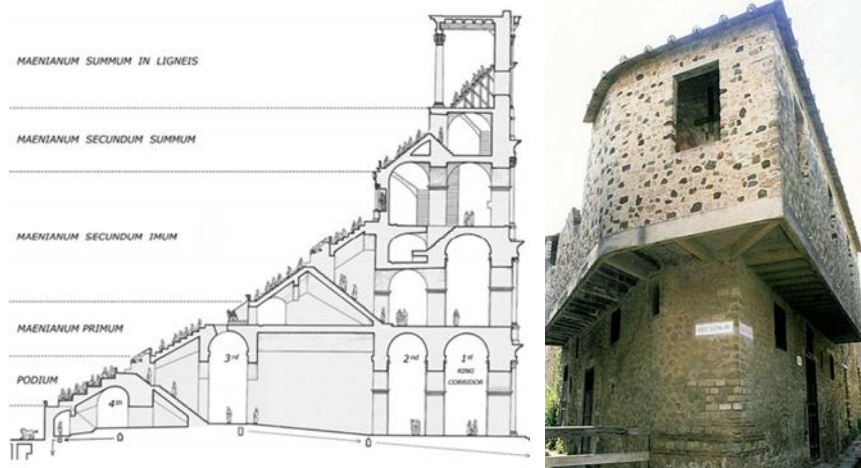
Hoard
The function and usage of balconies differed in the past. According to Viollet-le-Duc's opinion about balconies, in the 11th century the origin of projecting balconies was only for military usage, thus in the past, the balconies were the places working as shields, as well as appropriate locations for accessing enemies for attacks. In the past, these medieval balconies were called hoards. As Jimmy Stamp pointed out, "The hoard was a mountable, wooden scaffolding that was installed on the upper walls or towers of a castle when a battle was imminent - sometimes even during battle". (Stamp, 2014)
  Figure 51: Hourd. Château de Castelnaud, Dordogne, France Source: https://commons.wikimedia.org/wiki/File:Hourds_Castelnaud.jpg (Last retrieved on 28 December 2015, at 16:00) Figure 52: A Hourd in Carcassonne (Sketch by Eugène Viollet-le-Duc) Source: Dictionary of French Architecture from 11th to 16th Century (1856) by Eugène Viollet-le-Duc (1814-1879).
Breteche
Breteche is from the family of the hoard, and it is a wooden structure located on the upper level, particularly in the top of the building. Its usage was the same as the hoard at first, and it was utilized as a platform for defending against enemies by throwing objects. (Kaufmann and Kaufmann, 2004, p. 43) But then its usage differs from military usage. Breteche were advantageously used as a political standing area. As Viollet-le-Duc describes: "From the fourteenth century, breteches were no longer merely works of military architecture; townhouses were furnished, on the front side of the public square, with a breteche made of wood or masonry, a kind of balcony where one issued announcements read public documents, proclamations, and court sentences. One said 'bretequer' to proclaim. ... The breteche of the city hall of Luxeuil is still intact. This custom was adopted in all municipal buildings in Europe. In Italy, the boxes are elevated above the ground in the middle of a sloped wall, like the places of Siena, or upper porches or balconies, as at the doge's palace in Venice. In Germany, not only public buildings are lined with breteches but palaces; private homes almost always have a multi-storey gatehouse, so a projecting half turret is often placed above the door. At Nuremberg, Innsbruck, Augsburg, and Prague, the houses of the 14th, 15th centuries all have one or more closed breteches at their front, which allows one to remain covered and see everything that is happening on the street. In France, breteches mainly affected the form of turrets, and were then placed preferably at the corners of buildings." (Viollet-le-Duc, 1854-1868)
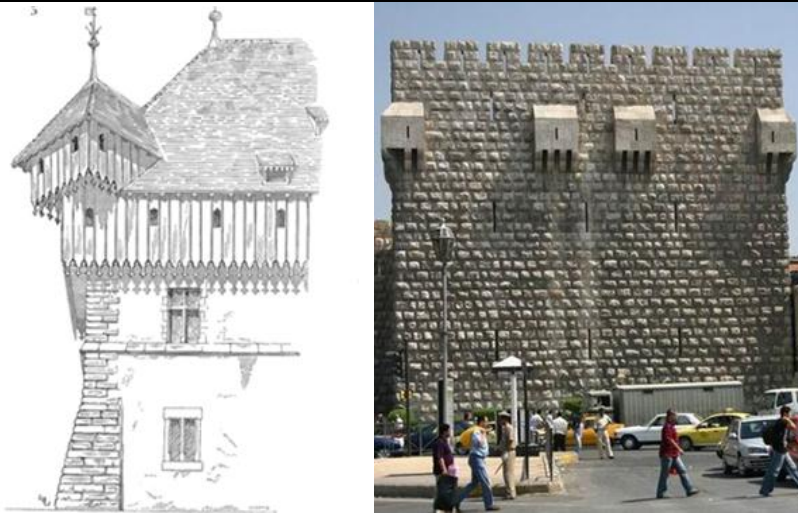
Figure 53: Breteches in Corner and Front of the Citadel of Damascus.
Source: https://fr.wikipedia.org/wiki/Bret%C3%A8che
(Last retrieved 11 May 2016)
Figure 54: Breteche in Strasbourg Treasury Tower.
Source: Dictionary of French Architecture from 11th to 16th Century (1856)by
Eugène Viollet-le-Duc (1814-1879).

Parlera

In Italy, during the Middle Ages, there was a balcony located on the upper level of a town hall buildings. The balcony was the abode of the results of the debates of a group of people and where rules and responsibilities were issued to the people

Figure 55: Parlera of Arengario in Monza, northern Italy.
(Photo taken by author)

Jharoka
The Jharokha is a kind of enclosed outward extension of a building facade used in the Architecture of Rajasthan. According to the book Balcony the authors believe that Akbar the Great who was the ruling power during the Mughal Empire used the Jharokha as a type of place for greeting ceremonies. Jharokha Darshan was a daily practice of addressing the public audience (Darshan) at the balcony (Jharokha) at the forts and palaces of medieval kings in India. It was an essential and direct way of communicating face-to-face with the public and was a practice which was adopted by the Mughal emperors. (Avermaete, Koolhaas, Boom and Amo, 2014, p. 828) Jharokha-e-Darshan in Hindu language means "balcony for viewing" where the King is seated, and the people come to visit him. The main aim of such action is to exhibit the power and dignity of the king himself.
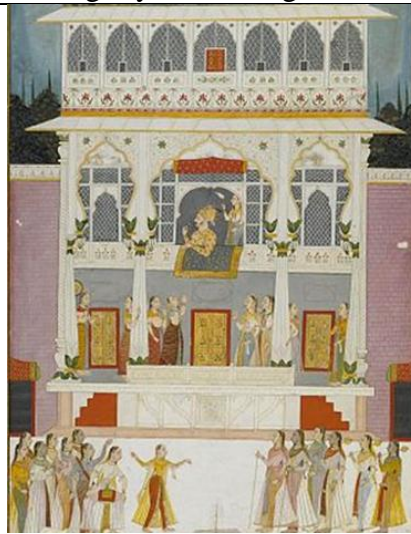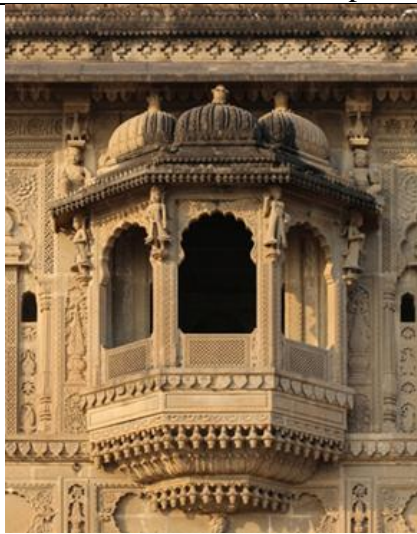
Figure 56: A Jharokha in MaheshwarFort.
Figure 57: Window of the Bakhat Singh Mahal
Source: https://en.wikipedia.org/wiki/Jharokha_Darshan#cite_note-FOOTNOTEReddi200181-1
(last retrieved on 11 may 2016, at 18:00)

Mashrabia
"According to the encyclopedia of Islam, the mashraby'ya designates a technique of turned wood used to produce lattice-like panels, to adorn the windows in traditional domestic architecture. The term itself has become associated with lattice windows in Egypt, although it is referred to differences depending on locale: it is known in Yemen as Takhrima (that which is full of holes), in Tunisia as Barmaqli, and in Algeria, it is primarily associated with Ottoman-Turkish architecture. In Iraq, such devices are referred to as Shamashil, which are wooden, boxed screens supported on brackets with a projecting, shading cornice. In Jeddah in Saudi Arabia, a mashraby'ya is known as Rowshin, which in its simplest form is a framework with panel infill but without carving." (Kenzari and Elsheshtawy, 2003, p.20)

Figure 58: Mashrabia. AL- Sennary House. Egypt
source:http://www.egyptarch.net/historicalcairo/islamicmonements/senaryhouse/sennary2.htm
(last retrieved on 11 may 2016, at 18:00)

The Arabic influence spread throughout the world and semi-open spaces in the shape of mashrabia with lattice work transmitted across continents over centuries. The Moorish balcony is the name which was given to the balconies in the style of mashrabia.

Takhrima	Barmaqli
Figure 59: Takhrima.Yemen Source: Kenzari, B., & Elsheshtawy, Y. (2003). The Ambiguous Veil. Journal of Architectural Education, Vol.56, No. 4.	Figure 60: Barmaqli. Tunisia Source: http://imenbrahim.blogspot.com.tr/ (last retrieved on 11 may 2016, at 18:00)

Shamashil/Shanashil/Shanasheel/ Shanashil	Moorish/Colonial/Miradores Balcony

Figure 61: Shamashil. Baghdad Iraq
Source:
http://looklex.com/e.o/baghdad.htm
(last retrieved on 11 May 2016, at 18:00) |

Figure 62: Moorish Balcony. Lima, Peru.
Source:
http://inmemoryoflatapada.blogspot.com.tr/
(last retrieved on 11 May 2016, at 18:00) |
| Rawshn | Muxarabi/Muxarabija |
|

Figure 63: Rawshn. Jeddah
Source: http://www.jeddah-hotels.net/articles/article_template.php?article=roshan.php
(last retrieved on 11 May 2016, at 18:00) |

Figure 64: Muxarabi. A Street Downtown São Paulo in the 19th Century Displaying a Façade with Muxarabi. Painting by Edmund Pink (Lago, 1998). |
| Xi Shi Railing ||

In China, the balconies with railings in the upper floors were called Xi Shi Railings. According to legend, the first place in the shape of a balcony emerged during the Wu dynasty. The Xi Shi was the name of the beautiful woman who was a gift from the king's enemy for distracting him from the affairs of the nation. The king built the gardens around the building and a place in the shape of a balcony for the couple to relax. (Avermaete, Koolhaas, Boom and Amo, 2014, p. 840)

In the typical design, there are 4–5m2 of space in the entrance of the building's main hall. Where a rectangular wood chair with an S-shaped or curved railing is installed on the outside edge of the space, termed as the "beauty railing", which is a symbol of the traditional residential architecture in China. In everyday life, the

balcony served as the resting place for people after working in the field. In pleasant summer days, it was the place for star-gazing, while on other occasions a space for conducting daily activities and spending spare time. Guests were invited and entertained at the balcony and bamboo trees were planted below it to provide a welcoming fragrance. (Pan, 2011)

Figure 65: Xi Shi Railing
Source:
http://ocw.mit.edu/ans7870/21f/21f.027/john_thomson_china_01/ct_essay01.html
(last retrieved on 10 may 2016, at 18:00)

Table 2: The Origin Story of Balcony (The old counterparts)[2]

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[2] Iwan will be examined later under the title of Iwan: An In-Between Space in Traditional Iranian Housing Architecture.

2.6.2. Impure Forms of the Balcony

It would be useful to briefly overview the formal and functional counterparts, to develop a more thorough understanding of balconies.

Juliet Balcony
The Juliet balcony is a type of balcony with a small area in front of the full-length windows in buildings. This type of balcony called as "balconette" originated from its appearance in Shakespeare's Romeo & Juliet. It offers residents a small outdoor space which provides a few inches standing platform. (Carlson, 2013) Juliette balconies are smaller and only large enough for 1-2 people.
 Figure 66: Juliet Balcony. Venice, Italy Figure 67: Juliet Balcony. Venice, Italy (Photo and sketches by author, 2015)
French balconies
"A pseudo-balcony; a low ornamental railing to a window, projecting but slightly beyond the threshold or sill." (McGraw-Hill Dictionary of Scientific & Technical Terms, 2003) A French balcony is actually a false balcony, with doors that open to a railing with a view of the courtyard or the surrounding scenery below. It is a balcony that is really just a ledge. people can't go out on it, but the slider has a railing that forms a sort of balcony feel.
 Figure 68 :French Balcony. Venice, Italy Figure 69: French Balcony. Tehran, Iran (Photo and sketches by author, 2015)
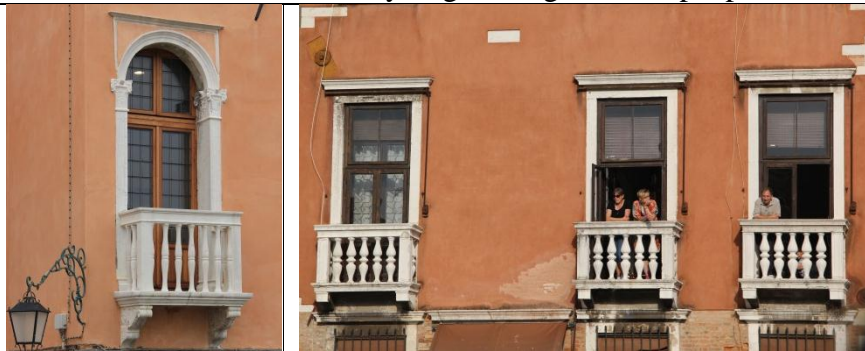
Gallery
Where buildings are constructed of the property lot lines, galleries extend over the sidewalk and are supported by posts or columns at the curb. There are also two types of galleries; double galleries and side galleries. The former houses are 2-stories, with galleries across the façade at both levels, supported by columns or posts. The latter represents a narrow covered side platform that acts as an exterior corridor at the edge of a building.
Figure 70: Gallery. Viareggio Italy Figure 71: Gallery. Venice, Italy (Photo taken by author, 2016)
Street in the sky
Public access gallery is allowing for passage from apartment to vertical circulation as well as between apartments.
Figure 72: A Street in the Sky. Robin Hood Gardens building. Source:https://commons.wikimedia.org/wiki/File:Robin_Hood_Gardens_Streets_i n_the_Sky.jpg (last retrieved on 10 may 2016, at 16:00)

Terrace
The Terrace is a paved outdoor area in upper level adjoining to a house or a row of houses. Without its constructed roof, the terrace serves as an outdoor living space, in many cases serving as the roof of the lower-floor. (Jokiniemi, Davies, & Ford, 2008, p. 379) People on low-walled terraces, can see outside without being noticed, employing the use of plants to make a green space regarding controlling privacy as well as having a pleasant place for spending leisure time.
 Figure 73& 74 : Terrace. Ankara, Turkey (Photo and sketches by author, 2016)
Deck
A deck is a horizontal surface exposed to the outdoors with a walking surface and located over an enclosed space below, so it is also a roof. What it differs with the terrace is in its size, as the smaller of the two elements.
 Figure 75: Deck. Venice, Italy Figure 76: Deck. Ankara, Turkey (Photo taken by author, 2016)
Loggia
The loggia represents a gallery or room with one or more open sides, especially one that forms a part of the house and has one side open to the garden or outdoor environment. It can be located on the ground or first floor, usually supported by a series of columns or arches and intended as a place for leisure. It is found mainly

in noble residences and public buildings. (Curl, 2006, p. 880)

Figure 77: Loggia (Photo taken by author, 2016)

Veranda/Verandah

This represents a roofed platform along the outside of a house, level with the ground floor. Originating from the 18th century Hindi and Portuguese veranda, it often extends across both the front and the sides of the structure and can be partly enclosed by a railing. It an open, large, usually covered with a roof and supported by pillars. It must be mentioned that in most of the cases, verandas usually extend equally on all the sides of the structure. They are associated with large and expensive homes, and may be used as a living space. (Poppeliers, 1983, p. 106) This term has two forms, 'verandah' also being correct, although the version without an 'h' is usually preferred. A veranda is a roofed platform along the outside of a house. It's level with the ground floor and often extends across both the front and the sides of the structure. It can be partly enclosed by a railing.

Figure 78: Veranda. Ankara, Turkey (Photo taken by author, 2016)

Porch

A porch is a covered shelter projecting in front of the entrance of a house or building in general. The structure is external to the walls of the building, but it may be enclosed in certain types of frames including walls, columns or screens, extending from the main structure. It represents an extension of the floor, either on the front or back entrance of a residence. It may be covered with an inclined

roof and have light frame walls extending from the main structure. Porches are used to have a comfortable pause at the entrance. A covered platform, usually having a separate roof, at an entry of a building, its purpose is to provide temporary shelter to the entrance doorway. (Mohney & Easterling, 1991, p. 55, 68, 253)

Figure 79: Porch
Source: http://howtofurnish.com/front-porch-adornment/
(last retrieved on 10 may 2016, at 16:00)

Portico

Portico is a type of porch supported by a regular arrangement of columns and without balustrade, leading to building especially large buildings.

Figure 80: Portico (Photo taken by author, 2016)
Source: http://howtofurnish.com/front-porch-adornment/
(last retrieved on 10 may 2016, at 16:00)

Sundeck

A deck on a ship or an outside area on a building where people can sit in the sun.A deck is a flat, usually roofless platform adjoining house. Decks are typically made of lumber and are elevated from the ground. It can include spaces for

BBQing, dining as well as seating. Decks are enclosed by a railing. In some cases, decks can also be covered by a canopy or pergola. Decks are primarily made of wood or a wood composite material or vinyl, like Trex. decks offer beauty and warmth, unlike any other material. People can stretch out on a deck without a cushion and still be quite comfortable. Like patios, decks can be attached to a house or freestanding. Decks often are built to take advantage of a view.

Figure 81: Sundeck
Source: http://home-partners.com/articles/deck-porch
(last retrieved on 10 may 2016, at 16:00)

Patio

Patios can be attached to a house, or detached. They are often designed and oriented with the landscape in mind. Patios are versatile: they can take on any shape and be built with a variety of materials, including concrete, pavers, stone, tile, brick, pebbles, rock or pea gravel. Most patios are set on a concrete slab or a sand and pebble base.

Figure 82 : Patio. Ankara, Turkey.
Figure 83 :Patio.
Source: http://www.thesociety.us/patio-regarding-invigorate/1000-ideas-about-patio-design-on-pinterest-patio-pavers-patio-with-patio-patio-regarding-invigorate/
(last retrieved on 10 may 2016, at 16:00)

Table 3: Impure Forms of the Balcony

In the previous section, the architectural elements similar to the balcony have been underlined and discussed. As a subsequent step, it would be beneficial to

find out the meaning of in-between spaces in traditional Iranian domestic buildings.

2.6.3. The Meaning of Semi-Open Space in Traditional Iranian Residential Buildings

In Iran because of the diversity of the climate conditions including the northern temperate climate, cold climate, the central arid climate and the southern hot and humid climate, there is a different kind of architecture. In general, there was Vernacular architecture before the arrival of modernity. For example, In the northern temperate climate region close to the Caspian sea, There are semi-open spaces in the shape of gallery, porch, portico and loggias. These semi-open spaces are very useful to reduce humidity by the wind coming from the mountains to the beach and its turn around the house. But it is important to indicate that these semi-open spaces were facing the yard enclosed by walls or fencing to prevent any chance of being seen by strangers. Also In the arid central region of Iran, Iwan as a semi-open space was introverted and created to absorb the maximum moisture inside the house's yard. Using the loggia[3] Or gallery which corresponded to the weather condition of the region was common. In the southern hot and humid regions of Iran, again Iwan, gallery, loggia was created to reduce humidity by making water spring around the building. In regions with cold climate such as Tabriz city, and Kordestan again galleries, Iwans, loggias, porches and porticos were the semi-open spaces of dwellings.

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[3] Loggia in Iranian architecture is known as "Ravagh."

Southern Hot and Humid Region of Iran
Figure 84 & 85: The Loggia (Ravagh in Persian)of Golbatan House. Hormozgan, the Southern Hot and Humid Region of Iran Source: http://hamgardi.com/ (last retrieved on 15 June 2016, at 17:30)
Northern Temperate Region of Iran
Figure 86 & 87: Bagheri House. Gorgan, the Northern Temperate Region of Iran Source: http://hamgardi.com/ (last retrieved on 15 June 2016, at 17:30)
Central Arid Region of Iran
Figure 88 & 89: Agha zade House. Yazd, the Central Arid Region of Iran Source: http://hamgardi.com/ (last retrieved on 15 June 2016, at 17:30)

Cold Region of Iran
Figure 90: Heydar zade House. Tabriz, Cold Region of Iran Source: http://hamgardi.com/ (last retrieved on 15 June 2016, at 17:30)

Table 4: The Semi-Open Spaces of Traditional Iranian Houses According to the Types of the Climate Condition.

2.6.3.1. Iwan: An In-Between Space in Traditional Iranian Housing Architecture

Human being need open space for using natural light and fresh air. Openness brings relief for human mind from being captivated in determined walls of residential buildings. Iranian people always were willing to have places to have a direct connection with the outside environment. Spacious, merry and the free look to nature are mixed to Iranian characters.

This permanent necessity of human life is expressed in the form of Iwan in Iranian domestic life.as it was mentioned before there were semi-open spaces including; loggia, gallery, portico and porch in Iranian dwellings but Iwan is a specific architectural element attributed to Iranian architecture. In the past, there was semi-open space called as Iwan in traditional Iranian houses which were responsible for controlling the climate of domestic areas as well as a factor for promoting the spatial value and quality of a house. They were located in the open and without any ceiling part of a house which was called as a courtyard. Rooms such as living

room, bedrooms, guest rooms, or other rooms with various functionalities were located around and faced the courtyard as well. It is a kind of public realm of in-between space of indoor–outdoor, public –private in the domestic life of Iranian people.

Iwan is defined as a platform, arch, a high sitting place upon which there is a roof, as well as doorway in the Dehkhoda dictionary.(Dehkhoda, 2006) In Amid dictionary, it is defined as a platform, a place before the room, and a part of the building which its front is open with no windows (the word is of Persian origin).(Amid, 1963, p. 194) Iwan refers to a part of the building which has a roof and sometimes is open up to 3 sides, and the open air touches it. It is called as a semi-open space in traditional Iranian architecture.(Mahmoudi, 2005, p. 54)

In Mahmoudi words, Iwans have been the spaces between the inside and outside and were responsible for organizing the correlation between these two distinct areas as well as having its unique function. (Mahmoudi, 2005, p. 55) Air conditioning has been their main use. In summer and spring, it can be used as a living room for sitting or sleeping (in dusk and night). South facing Iwan is suitable for winter, Sleeping at night, Doing housework, Reception of guests, Having dinner or breakfast, A crossing space that connects rooms Enjoying garden landscape or watching the sky. Furthermore, from the spatial aspect, Iwan provides the possibility of "a particular experience of living, dignity of a house, differentiation, readability, and the spatial variation, and also results in internal and external coherence". (Mahmoudi, 2005, p. 56-57)

This half-open spaces (in general) and Iwans (in particular) have been an essential element of Iranian houses. These spaces have played a major role in organizing the building along with open and close spaces. On the other hand, they were considered as independent spaces with various functions. In this regard, Iwan was the most important space because it has its architecture regarding form, function, and structure.

It must be said that Iranian architecture respects all aspects of human life and provides an appropriate response for all of them. That's why a simple operation like "passing", was received enough attention in traditional architecture because any form and space are valuable in it, and it is a very successful architectural pattern. In Mohammad Yousef Kiani words, In traditional architecture, semi-open spaces are transitional spaces, and their duty is to connect open and closed spaces. All closed spaces are related to open spaces by semi-open spaces. These spaces, particularly Iwan, have some traits of the two groups of open and closed spaces. In fact, they are the tail of both spaces but have its function and form. In traditional house architecture, three groups of spaces (open spaces, semi-open and closed spaces) are not separate from each other, but they are built on each other. (Kiani, 1998, p. 40) So open spaces gradually become half-open and then closed spaces. The degree of openness of a space changes gradually. This continuity in the composition of spaces makes it possible that consecutive spaces expand each other. For example, the Iwan is an expansion of the room and vice versa. The combination of vertical and horizontal overlapping layers around the yard removes the sequence and continuity to combine groups of open and closed spaces; that's why in historical houses fluidity and buoyancy are seen. Gradual passing in traditional Iranian architecture comprises a conceptual meaning, in this way the semi-open spaces work as a connector of closed and open spaces. Iwan as an in-between space which has mutual particularities with both groups of open and closed ones contains functional performances. Iwans also can be called an intermediate space because of its dual form (closed from three sides and opened from one side). It can be considered a transitional space (path) between closed and open places.

Iwans are very useful for hot seasons including a place for eating, sleeping, doing housework and so on. They adjust the temperature of adjacent rooms in warm seasons, so they are valuable regarding climate conditions.

In terms of space, in addition to above-mentioned points, Iwans can create space diversity, as well as a specific experience of living, to identify or differentiate

inside and outside the house and at the same time they can maintain continuity of the external and internal parts of the house. Regarding decorations, Iwans are the contact place of alcove and hall and a room with the yard which is a very important space in Iranian architecture: These connecting points have the most beautiful and the most artistic arrays. Long vault and Mogharnas under it shows a picture of high art that is present in an artist mind. (Saremi & Raadmard, 1997, P. 109).

From outside to inside perspective, Iwan which is somehow higher than the rest of building façade can be seen sooner, so it is called the forehead of the building. In this case, the value of interior parts of the yard is evaluated on it. From inside to outside perspective, Iwan is a wide but enclosed space which is a small internal garden (yard), and the yard represents the concept of paradise. This part with a square shape surrounds the pool in the middle and represents perfection.(Pirnia, 2000, P. 193-194)

There is more than one hypothesis for the emergence of Iwans. Some people think that Iwan was a stone tent. They believe that when nomadic people settled in the rural area, they used a room with three walls to maintain their relationship with nature. There are ambiguities in the context of the emergence of Iwan, but all scientists believe that Iwan is a significant phenomenon in Iranian architecture. (Mahmoudi, 2005, p. 58)
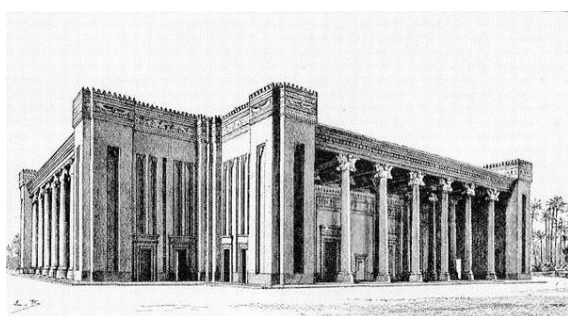
Figure 91: Semi-O pen Space in Apadana Palace.

Figure 92: Semi-Open Space in a Rural House. Mazandaran in 19th Century.

Source: http://www.livius.org/

(last retrieved on 15 March 2016, at 10:40)

By examining the remains of the historic buildings in Iran, especially the ancient period, it becomes clear that at least since the Achaemenid era, Iwan was one of the main architectural concepts among the three concepts. The two others are domed structures and colonnaded structures. Iwans were built around the central yard, and it can be seen in most official and ordinary buildings in Iran. Iwan footprint (semi-open spaces) can be seen in Iranian houses and palaces from the Achaemenid period such as Apadana palace, houses in southern part of Persepolis, Pasargadae palace and the remains of Parsoumash houses (Masjed-Solaiman).(Javadi, 1994)

According to Diodorus Siculus (the Greek historian who visited Iran in 2nd century AD), Iranian houses were built around a yard and the Iwan was one of the main elements of the yard. (Saremi & Raadmard, 1997, P. 109) However, according to Malcolm College, the importance of Iwan became remarkable in the Parthian period. The Iwan is reminiscent of spaces of traditional architecture of Iran which has roots in the Parthian period and Parthian architectural style. East of Iran, especially Khorasan, is the location of this architectural element. Some houses related to Parthian era include Nisa cities houses in Turkmenistan, Parthian Hetra city, Mount Khajeh, Gholaman outfall and Parthian palace in Assyria. Parthian art reached its peak in the construction of arches and Iwans at the Assyrian palace. (Taghavi, 1984, p. 92)

Iwan is a very important element in palaces that are established in Parthian period. Constructing Iwans was continued in Sassanid era and became one of the main elements of ordinary people or noblemen' houses. Alcove Iwans are face to an open space, and there is a very important space (Hall) behind it. This is one of the most important characteristics of Sassanid architecture; some examples include Sarvestan palace, Ghale-Dokhtar, castle, Ivan MADAEN and Khosrow palace. (Taghavi, 1984, p. 92)

Figure 93: Ivan Madaen   Figure 94: Sarvestan Palace
Source: http://7country.persianblog.ir/post/166/
(last retrieved on 17 March 2016, at 14:50)

Later on, in the Islamic periods, they became an integral part of Islamic architecture due to their unique usage. The number of houses left intact after Islam to the Safavid period is rare. Some of the examples of such houses include Hosseinian house (Seljuk) in Fahadan neighborhood in Yazd with high and deep arches. (Javadi, 1994, p. 22)

Figure 95: Example of Iwan in Amerian House. Fahadan Neighbourhood in Yazd
source: http://asrgardesh.com/
(last retrieved on 17 march 2016, at 14:50)
Figure 96: Example of Iwan in Hosseinian House. Fahadan Neighbourhood in Yazd
Source: http://asrgardesh.com/ (last retrieved on 17 March 2016, at 14:50)
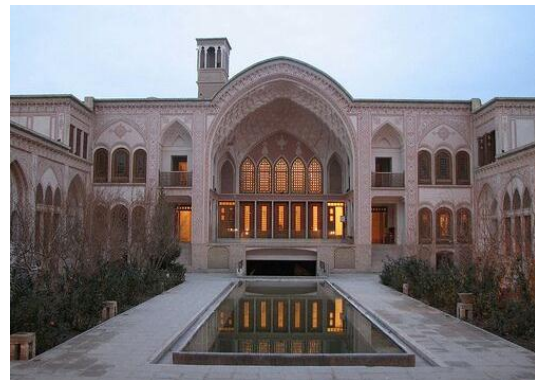
Many houses that were built from the Safavid to Qajar era are available. In most of them, there is more than one Iwan in several parts of the building. Iwan is one of the main elements in these houses. This shows that after 2,000 years, Iranian architecture retained its spirit until the arrival of modernity in Iran.

While the existence of semi-open spaces similar to the shape and functions of balconies throughout the history examined creating a useful and beneficial categorization about impure forms of balcony in residential buildings is done. This part aimed to understand the evolution of balcony by chasing the clues in architectural history. By using illustrations and definitions; the meaning of the public realm of in-between space in housing architecture from west to east demonstrated. Also, the designed table for understanding balconies counterparts helped to have information about the form, architectural and functional features of them. Moreover, the result which is achieved by observations indicates the differences and similarities between theses counterparts. Investigating The meaning of public realm of in-between space for Iranian housing architecture have proved that the Iwan is an element of Iranian architecture, therefore; this part has studied in a separate part for showing its significance.

CHAPTER 3

THE EFFECT OF MODERNISM AND EMERGENCE OF BALCONY IN IRANIAN HOUSING ARCHITECTURE

The main aim of this study is to gain a thorough understanding of balconies and the reasons behind their non-functionality in residential buildings. Thu it is expected that through the observations being provided by this study, will raise concern over the identity of balconies as a public realm of in-between space, outdoor and indoor, closed and open, private and public; in the scope of Iranian domestic buildings. Due to being imported from an entirely different culture into Iranian housing architecture, the balcony faces a threat of demolition. Therefore this chapter investigates the emergence of balconies in Iranian dwellings. Accordingly, having a flashback through the history of Iran's architecture and urban development from the beginning signs of modernity during the Qajar period[4] Is important. Also, considering the reasons for the major shift from traditional knowledge to new ones that occurred in the Pahlavi era – the dynasty which ruled Iran in the 19th century – is remarkable. The focus will then continue with studying modernization itself and its impact on the Iranian society. The transformation applied to urban and architecture under the umbrella of modernization seems to exclude all those traditional cultural aspects of Iranian housing architecture. It transformed introverted architecture to an extroverted one and changed the spaces by subtracting old architectural elements, for example, a kind of semi-open space such as Iwan, and adding a new architectural element, like the balcony, to the domestic buildings.

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[4] The Qajar dynasty ruled Iran in the 18th century until the begin of the 19th century.

Space can invalidate every binary opposition between people and places due to lack of correspondence between cultural and social aspects. For instance, the use of balconies paralleled with Iranian culture – leading to balconies being termed as a marginalized space. This is the section that forms a subsidiary pillar within the scope of this study, but its leading role in the background could not be disregarded.

3.1. Pre-Modern Era of Iran and Emergence of Modernity

Before the Pahlavi dynasty, an era before the Islamic revelation[5] In Iran, there was a system that depended on feudalism. The Qajar dynasty and its leading royal family ruled the country from 1785 – 1925, during which period the ruling system was based on decentralized tribalism, where the local tribes were ruled by *khans* who had ethnic ties with the royal family. The financial condition of the country was dependent on the power of local governments – which were interested in maintaining rigid and traditional social structures. According to Kiani During the ruling tradition of Qajar dynasty, there were various changes, innovation and modernization movements in politics and social life – related to social, cultural, political, economic changes in slow degrees. (Kiani, 2004, pp. 31- 46) Kiani believes that In their attempts to modernize, it was necessary to detach themselves from such traditional Iranian sensibilities and give way to more modern and innovative perspectives. The last fifty years of Qajar dynasty (1848 –1896) saw the initiation of a gradual transformation of in all aspects of society. Changes in architecture were not implemented quickly but started taking shape through the initial steps of social changes. This slow movement created a suitable and logical combination according to social needs.(Kiani, 2004, pp. 31- 46)

According to Khalili Khoo Qajar government, like previous governments, had close ties and roots in tribal relations, but the city was considered as a power base according to traditional sensibilities. Each government had to put its power and administrative systems in the towns because major political and economic units

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[5] Islamic revolution took place in 1979.

were allocated in cities. During this period, the cities were composed of 3 major powers, located in 3 different architectural archetypes; the castle in which the king was living was considered as a political base, the Great Mosque was considered as a religious base and the Market which was considered as the economic base of the city. (Khalili Khoo, 1994, p. 150) It is important to notate that the Qajar period in Iran coincided with the industrial revolution in Europe in the 19th century – which was the primary cause of changes in architecture and urbanism in America and Europe and also can be considered as the central element of shaping modern architecture and urbanism. Those years were the beginning of gradual and tangible but lagging impacts of European urban developments in Iran.

The long reign of Nasser-al-Din Shah began in 1848 and ended in 1896 when he was assassinated, whose tenure saw nearly 50 years of significant urban development. Around the world, this period witnessed important events, such as the London International and Modern Exhibition in 1851 and the Paris International Exhibition and construction of the Eiffel Tower in 1889, continuing and developing the construction of boulevards and development of wide and straight streets as well. (Etesam, 1995, p. 91) In this period, large public buildings with magnificent views of improved styles of the past behaviours, and a new European capitalism was spread, stimulating higher consumption and new functions such as restaurants, hotels, watch houses, department stores, exhibitions and a new social energy. In fact, the European city operated as a diorama in the eyes of everyone in Iran, leading to the imitation of Industrial European urban development. (Etesam, 1995, p. 92)
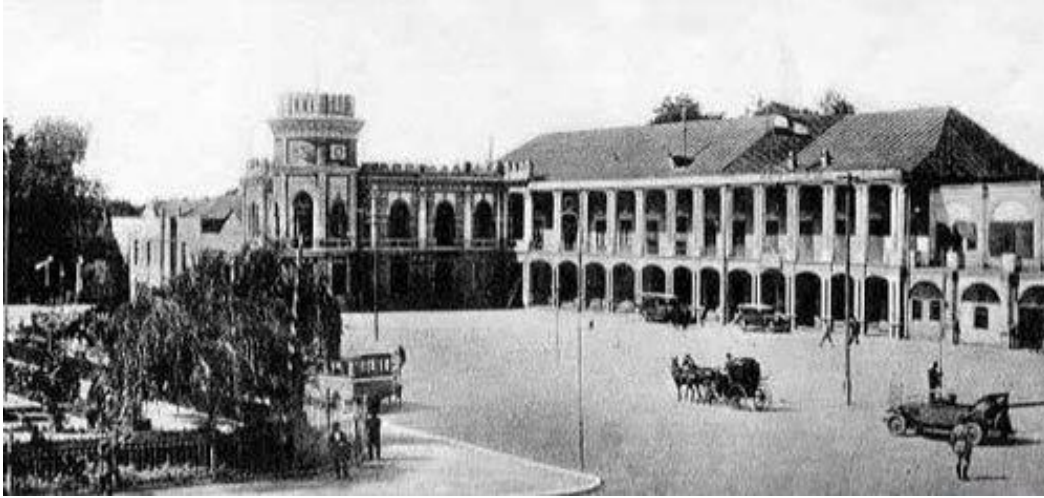
Figure 97: Public Buildings of Tehran in Naserie Street.1906.
Source: http://maanaa-864262.blogfa.com/
(last retrieved on 12 February 2016, at 13:30 pm)

According to Zakavat, before the Qajar Era, Iranian cities visage, city spaces and its communication with architecture and urban development was specified according to traditional perspectives and much different from the current condition. The walls were built without windows; houses were isolated from the urban environment and an introverted manner of living was encouraged (Zakavat, 1995, P. 136). One of the primary architectural features of the Qajar Era was maintaining order, proportion, and symmetry, evident in their urban architecture. The physical arrangement and height of buildings were two stories high, limited and managed due to its wooden frame construction. This kind of arrangement is an adoption from neat rows of houses similar to European neo-classical architecture. In this way, the buildings alone are not manifesting, but the rhythm, order, symmetry and unity of the street is kept. The extent of urban spaces during Qajar Era was limited and usually included one or more street around the Palace and the market. The first streets in the form of new urban development or European style behaviour in Tehran. (Zakavat, 1995, P. 136)

Figure 98: Naser Khosro Street. First Street Constructed in Tehran in Qajar

Period.1906-1910

Source: http://maanaa-864262.blogfa.com/
(last retrieved on 12 February 2016, at 13:30 pm)

At the time, the introverted architecture of the Qajar Era gained minor impacts from western architecture and experienced brief transformations, while maintaining an architectural legacy of the past.

The introverted characteristics of dwellings were preserved during this period, and keep a continuous and dense urban fabric. These buildings were made very simple and without ornaments. No windows or opening existed in the body of public or semi–public spaces, evident in the example Tabatabayiha house as seen in Figure (102- 104).
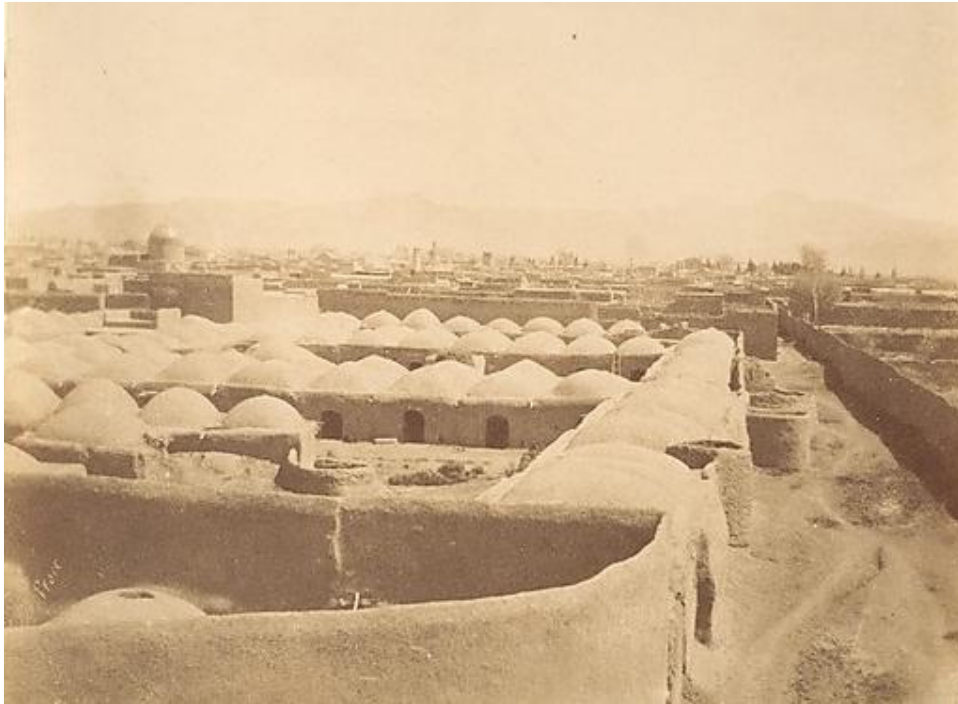
Figure 99: A Residential District of Tehran. 1879.
Source: http://www.mashreghnews.ir/
(last retrieved on 10 March 2016, at 11:20 pm)

Figure 100 & 101: Streets in Qajar Period.
Source: https://rahekargar.wordpress.com/2011/05/29/nawi-4879/
(last retrieved on 10 March 2016, at 11:20 pm)
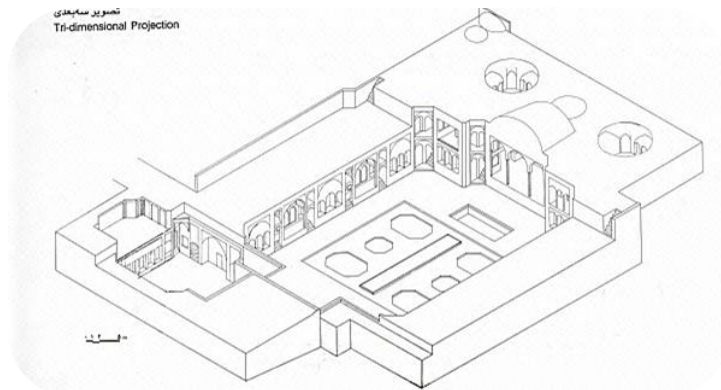
Figure 102: Three-Dimensional Volume of Tabatabayiha House.
There is not any opening except entrance door in the facades of Tabatabayiha
house.
Source: http://www.iiiwe.com/article/architecture/tabatabaei_house/
(Last retrieved on 10 March 2016, at 11:40 pm)
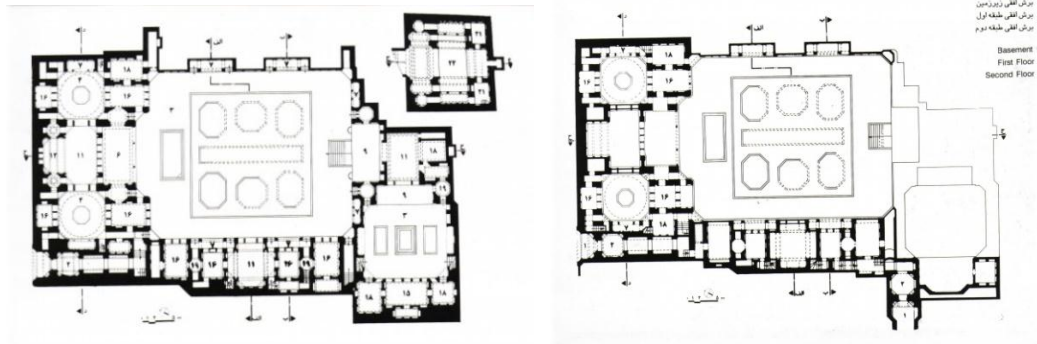
Figure 103 & 104: Tabatabayiha House Plan. Early 1880s.
Source: http://www.iiiwe.com/article/architecture/tabatabaei_house/
(Last retrieved on 10 March 2016, at 11:40 pm)

Simplicity and uniformity of bodies of buildings made it hard to identify the
nature of the architecture and interiors of houses. The width of the passages was
very narrow and became even narrower in secondary pathways and dead ends.
This was especially due to security, privacy, and climatic conditions. Narrow
streets were just used for commuting humans or livestock and contained no trees
or shrubbery. The simplicity of exterior walls that were made of cheap materials
showed a calculated separation of indoor from outdoor spaces, caused by cultural
and social conditions of the Qajar era.(Qarib, 1995, p. 207)

To discuss the topic of modernism in architecture, it is necessary to define
modernity or modernism in its social meaning. According to Kiani many

historians consider the era between the Renaissance and the French Revolution when talking about the modern period in the western history. But, some believe that the beginning of industrialization in some European countries is the starting point of modernity. Some writers mention the mid-20th century and even the contemporary era as the extreme points of modernity. Many authors believe that modernity means the period of history that human wisdom conquered traditional beliefs, such as myths, religious beliefs, philosophical, ethical traditions – a social enlightenment. (Kiani, 2004, p. 149) Development of scientific thought and rational wisdom was also considered as the sign of modernism in the Western history. Modernism can also be observed in cultural, political, economic, social life of Western societies that can be seen from the 15th century onwards. (Ahmadi, 1994, p. 8) To explain the character of the transformation of modernisation from western cultures to developing countries like Iran, Behnam states that;

"Modernization is a process that led to the emergence of new forms of production relations, economic, social and political structures. It is the product of new behaviours, thoughts, and desires. Its result is reaching to a state that we call it modernization. Thus modernity is a condition or renewal of a movement. Modernity is a new way of thinking and a new approach to the world, so it is an endogenous condition. Social internal dynamism can be reached by knowing the progress of science and the nature of other cultures, while the definition of modernization in developing countries means transferring western modernity to other nations, that sometimes it is called Westernization." (Behnam, 1996, p. 177)

From this perspective, modernization can also be considered as westernization. It can be stated that in Iranian history, modernization is associated with the ideas of progress, rationalism, civilization, innovation and westernization in all sectors of life. In Iran, the modern era and trying to get new ideas began from Sepahsalar Era[6] And continued by the reforms of Amir Kabir[7], Constitutional Revolution, the law governance, drafting of the Constitution, the National Assembly, freedom of expression, freedom of the press, new training, new reforms and the intellectual

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[6] (1828–1881) was the prime minister of Iran.
[7] (1807 – 1852) chief minister to Naser al-Din Shah Qajar.

community to keep pace with cultural and materialistic achievements of the West. (Kiani, 2004, p. 153)

During the Pahlavi era[8], Reza Shah's first goal was to establish the centralization of the governing system and political control and creating a centralized government by suppressing tribal rulers. According to the Pahlavi Government, Qajar rulers, and their local government system were the main reasons for delaying the process of modernity, hence, they changed all signs and symbols of the tribe based regime. Constitutional Revolution created the theme of this transformation. At the beginning of Reza Shah's Era, a new social class emerged in the city which included graduates who had received a more westernized education. (AmirBani, 2012, 182) They were searching a different lifestyle and customs, where for the first time, a half traditional–half Western urban society was formed – yet it leads to social disorder and confusion. These problems reflected the lack of usefulness of a half-hearted modernity, based on imitating style and aesthetic. (Kiani, 2004, p. 155) Thomas Bottomore describes this difference as; General and public issues in the countries that were affected by the West and today they are called or classified as underdeveloped or developing countries, are mainly due to the rapid speed of industrialization. Industrial or trying for reaching modernization level is the desire of all countries that have managed to some extent to make it happen. Their pattern was selected by one of the countries that have been already industrialized. Industrialization in West began in a more favourable condition because of their economic organization, political stability, and cohesion and, above all, the mental readiness of people because of the loss of traditional institutions. This process was slow but continuous. However, modernization and industrialization in non-European countries and non-US countries were faced with some issues such as political instability, demand for a better situation by people, and vigorous oppositions that were a traditional lifestyle. (Bottomore, 1993, p. 72)

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[8], The Pahlavi dynasty was the ruling house of Iran from 1925 until 1979.

According to Masoud Amirbani, the coincident movements from the Renaissance to the 20th century in Europe and the Safavid period to the first Pahlavi Era in Iran were completely different. A pseudo-modernist took shape, which was trying to supply Iran's needs by European productive achievements, yet the path of modernism in Iran was different from the path in the West and Europe.(Amirbani, 2012, p. 190) Similarly, Katoozian stated that; Many intellectuals and political leaders in the Third World were voluntarily captured by superficial concepts of European modernism; it was only 'pseudo-modernism.' Modernism is the product of specific developments in developed countries, but the pseudo-modernism in Iran was the result of statesmen and intellectuals' working that despite fake ideological boundaries were unfamiliar with social ideas and ideals of Western history and culture. Most of them do not have any knowledge about real thought, values, and European techniques. In Iranian modernity, new technologies center as real solutions and final treatment for every problem like a miracle. So, industrialization centers as a goal, but it was such an object, then, bringing a factory was the ultimate goal, not a means for industrialization. (Katoozian, 1987, p. 147)

According to the Persian book about Iran Contemporary Architecture, Reza Shah, and his government got helps from graduates from foreign schools, colleges or universities or graduates who have studied at western-style universities in Iran could help him in implementing modernization projects, But this social class could not be a good representative of modern ambitions in Iran. In this attitude changing, western countries from one hand and well-educated people who had the close relation to Reza Shah on the contrary; played a vital role. (Amirbani, 2012, p. 203)

Kiani stated that; Modernity in Iran was fundamentally different from Europe; in Iran in addition to concepts such as technological progress, economic development, and anti-arrears; it also contained cultural reforms. Some modernists – or in the words of Katoozian, pseudo-modernists who were under

the influence of Europe – put emphasis on overall structural change, especially the religious structure of the society and supported complete westernization. In other words, modernity and modernization together created a new meaning of "Westernization." This idea has a superficial impression of modernization and development, and the only symbol and the cause of progression were noting the appearance of Western societies. They paid attention to social behavior, language, literature, culture and lifestyle of western countries and aimed to imitate them, where Reza Shah's 20-year plan changed the "transformation" in Europe to "refinement" in Iran. (Kiani, 2004, p. 156)

3.1.1. The Impact of Modernity on Architecture and Urban Development of Tehran

Modernization, regarding social and architectural aspects, is of critical influences on the architecture of the first Pahlavi Era. More of this importance is when this impact started in the early 20th century and reached its peak. The emergence of modern architecture is important for Europeans in the late 19th century, but it is equally important and controversial for Iran in the 20th century and Pahlavi Era. During two decades, these factors showed their consequences.

Iranian works in some styles such as national practices, traditional, European neoclassical or modern architecture or a combination of them were built as all in a similar manner to 19th-century European architecture. They exhibited a collection of different styles of Greek, Roman, neo-classical, neo-gothic, eclecticism and modern style (Rajabi, 1976, p. 60)

Parviz Rajabi writes about architectural styles and techniques in Iran during this period:

"Modern architecture in Iran could not abandon all its tradition of 2500 years. But now when it more or less has accepted European socio-cultural system, it must receive its architectural techniques, too. In this case, it can put the aspects of European socio- cultural in its new works. So, in most of the buildings in Reza Shah Era, architectural elements are gained from ancient and traditional architecture, but you can see the use of evolved Western architectural techniques." (Rajabi, 1976, p. 60)

It can be understood from Rajabi's words that the Development, modernization and new conditions of having relations with Western countries have made the acceptance of European architectural system and technology unavoidable. Because of the development process, achieving western technology was necessary and inevitable. New and modern architectural techniques promise tenacious and better building that were built in shorter time. However, it was much more incomprehensible to accept modern architectural styles, when European sociocultural system had already been more or less accepted.

According to Rajabi, events have shown that it was not inevitable but the result of the works in Iran and western countries are the same: overcoming the modernism to create a non-historical, non-national, non-religious, non-traditional style, in other words, a universal style. (Rajabi, 1976, p. 60)

At the time of the Pahlavi Era in Iran; this overcoming ended to a total transition when the 20-year period ended. In fact, modernization dominated over archaism or traditionalism during that time.

In that period, Tehran was under the influence of some works of great and famous architects such as Vartan Hvanesian, Gabriel Geverkian, Paul Abkar, Mohsen Foroughi and others. (Amirbani, 2012, p. 228) Hooshang Seyhoon, in an interview, stated that in the Pahlavi period, a few of the architects returned from Europe to Iran, and began their activities. They were active in the field of constructing public buildings such as schools and banks, so Iran's connection was established with other countries and the architecture began evolving. During this evolution, new problems of Iranian architecture emerged. Undoubtedly, the high speed of these changes caused the society's failure to understand or digest them. (Seyhoon, 1962) Hvanesian stated that,

"Hurricane of modernism has changed Iranian social life during the last few years. And this has brought the spirit of modernity to all people. It can be said that its best effect is seen in buildings and architecture…in fact, the architectural heritage of past centuries in architectural world – which is treasured in its time and now – are not enough for creating a new world in architecture. So, Iranian new generation enforced to find a solution or a new way that is more suitable for current conditions of life." (Hvanesian, 1946)

These remarks show the thought-process of some architects who were active in the mid-1920s. Pioneer in using modern materials under the umbrella of modern principles was Vartan Hvanesian (1895-1982) an Iranian architect who was the student of Le Corbusier. Hvanesian, in the reconstruction of war damage, was in Paris and began his independent activities there. Until 1962, he was living in France but then he returned to Iran and was hired by the Municipal Administration and began to work as an architect. As one of the modern thinkers, he believed that traditional architecture should be forgotten and not used in new buildings anymore, using new ideas with new equipment in designing buildings. (Amirbani, 2012, p. 238) As a symbol of this new generation of architects stated that;

"In recent centuries, architecture has declined like the other arts. People who are unaware and often illiterate have been replaced of old masters. They did not have any technical knowledge or any architectural taste. So they try to match the old architecture with new life have led to a strange chaos. The best example of this chaos that we see is in some details such as capitals, stuccos, and decorative ceilings or other useless ornaments that show their builder is tactless and untalented." (Hvanesian, 1946)

In this speech, he explicitly defends the principles of modern architecture. He paid close attention to this point that tactless in the constructing buildings means ignoring or not paying attention to the modern architectural style. He also attacks to architectural styles that imitate the past, like leaders of the modern movement in the West.

Implementation of new urban development in the first Pahlavi Era began with a determinant level of change in the power structure and European urban development patterns in the nineteenth century was used for every part of the city mainly northern part of it. Confrontation and repression to change the traditional patterns to modern patterns were not successful. Therefore, it changed its way by using new urban development for changing the needs and tastes. Kiani believes that; In Europe, there was a link between ancient and modern urban developments, they protected and respected old textures in the cities while implementing modern urban developments. However, urban development in the

Pahlavi Era was applied with an aggressive thought toward past and a forthright approach toward modern contemporary design. (Kiani, 2004, p. 146-148)

The municipality, during Pahlavi period, insisted people change their minds about ancient teaching, also imposing women to remove their veils for being without any hijab[9], caused new thoughts about changes in all aspects of the society. When religion did not play that insisting rule on people's lives, people began to change their way of living by changing their surroundings. Industrialization, hiring foreign engineers, sending students to Europe, and colonialism are reasons for the new shaping of the society. (Amirbani, 2012, p. 203) Therefore Pahlavi era by the emergence of new ideas and theories became the turning point in Iranian architecture. During the implementation of the new urban development, the physical appearance of the city was experiencing a lot of changes. Some of the most significant changes in these two decades including Destruction of Tehran's 12-gate fence for constructing big squares which were a traffic node, constructing four major and wide streets instead of fence walls, in addition to levelling and destruction of some old neighbourhoods of Tehran to build and deploy large public buildings.
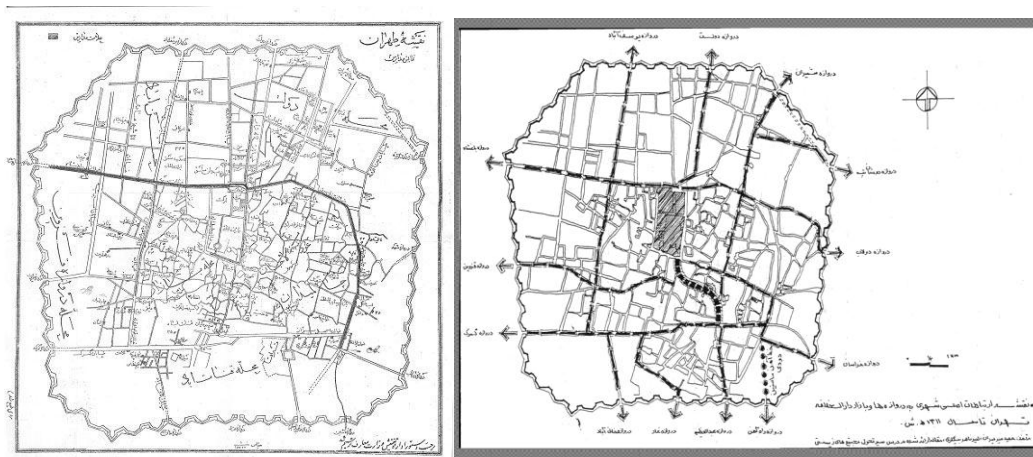
Figure 105: Map of Tehran in Qajar Period. 1877.
Figure 106: Map of Deconstructed Fences by Pahlavi Dynasty.
Source: http://history4952.persianblog.ir/
(last retrieved on 12 March 2016, at 12:30 pm)

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[9] head covering using by Muslim women in public.

Construction of the first cross-streets in Tehran, widening alleys and streets in the old texture of the city, led to the destruction of the walls of the old buildings on the margin of streets, destruction of many valuable buildings of Qajar Era because of opposition to this era which was considered as a sign of backwardness. To this end, the old texture of the city was destroyed firmly.(Kiani, 2004, p. 183) Thus, the new structure of power and other three major factors such as political dependence, and socio-economic backwardness resulted in imitative or derivative actions that took place.
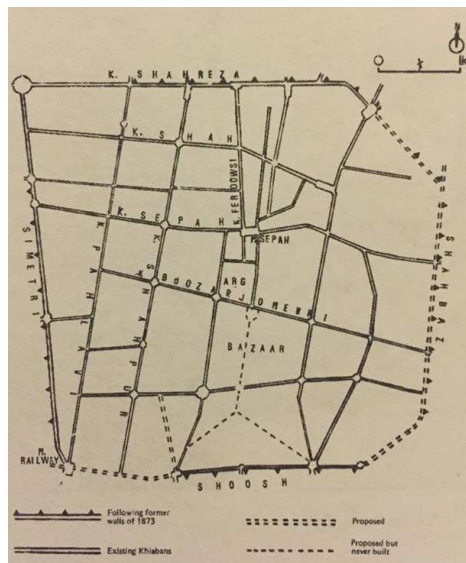
Figure 107: Map of New Roads and Streets. Tehran in the First Pahlavi Period. Source: Kiani, M. (2004). *Memari dore pahlavi aval,* (Second ed.). Tehran: The Institute for Iranian Contemporary Historical Studies.P, 285.

3.2. Architecture Evolution from Introverted to Extroverted

The most important feature of Iranian architecture that is considered as a distinguishing trait of this from other styles, especially Western architectural styles, is the "introversion" phenomenon. There are several reasons for the emergence of these features, including "its unique geographic situation in many parts of Iran that it was impossible to build extrovert buildings" (Pirnia, 1990, p. 32) or "due to insecurity or paying much attention to security or privacy, introverted architecture became widespread." (Rajabi, 1976, p. 111). It is

considered as an irrefutable principle in Iranian architecture. The social and cultural importance or in other words, the credence matter of this phenomenon has been superior to its security priority during the time. Therefore this principle is to observe widely in residential buildings; it is worth to mention that, introversion can be seen in many other buildings like mosques and its appendixes or pavilions or gardens.

Introverted architecture puts architectural elements and parts of buildings around a yard, so the building has a direct contact with the inside space, but its contact with the outside is cut by using high walls. The only way for connecting inside and outside spaces of the building is through the vestibule and entrance door.

The formation and presence of this phenomenon in the Iranian architecture were decisively continued until the end of the Qajar Era. The first governmental or non-governmental structures in the late Qajar Era and ideological and social changes at the start of the first Pahlavi Era changed the most important characteristic of the Iranian past architecture. Buildings constructed in all areas suddenly turned from inside toward the outside. This sudden and fundamental change had deep influences on other elements of Iranian architecture and caused the emergence of new cases in the field of architecture and urbanism including the construction of streets, alleys, windows and facades; in other words, a new space was created. So it seems that at first, the phenomenon of extraversion was formed in thoughts and subsequently and according to the needs of people, intentionally or unintentionally spread to architecture and the way of creating new buildings. The first large and important buildings like police centers, municipalities, ministries, banks and commercial centers began to provide their services or performing their duties along the streets. All these activities had been done inside the buildings before. The movement showed the outside spaces more active, more alive, more crowded and more diverse and quickly entered the residential tissue. After that, the city was such that it was very reckless and arrogant; however, such an event would happen sooner or later.
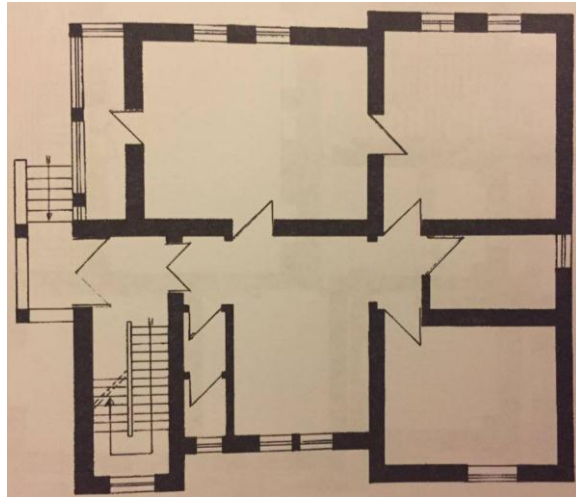
Figure 108: Plan of a Villa in first Pahlavi Period. Chaloos City.

Source: Kiani, M. (2004). *Memari dore pahlavi aval,* (Second ed.). Tehran: The Institute for Iranian Contemporary Historical Studies.P, 376.

According to Kiani Extraversion changes in architecture did not happen like the other cases – such as extraversion thinking in political and social affairs – with compromise; it cannot be considered a step by step or comparative process. Extroversion in architecture rejected backward and traditional modes of thought. (Kiani, 2004, p. 173-210)

For example, Naderi fence was destroyed because it was considered as a symbol of introversion in the city, while it was not an obstacle to the development of the city or extroversion trends. The gates of Tehran, which were like the entrance of houses and the only contact points of inside and outside of the city, were destroyed as a legacy of the previous government and similarities to religious symbols. (Kiani, 2004, p. 173-210) Extroversion was the most important phenomenon of the architecture in the First Pahlavi Era[10]; which was an enforced and hasty series of steps, however, one which could not be adapted to the existing mind-set since it was the result of modern thinking and linked with the modernist process. According to the design of the buildings in that era, everything changed, for instance, the placement of items in plans, facades, and materials.

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[10] Reza Shah Pahlavi's governance period is considered as first Pahlavi era of Iran history.

3.2.1. Introduction of New Architectural Element: The Balcony

The openings on the facades of public buildings and houses changed during the first Pahlavi period. Before this period, based on the culture and social attitudes as well as introverted attitude toward architecture with a long history in Iran; there was no connection between internal space of the houses with alleys or streets except the entrance door of the houses. In cities, some passages, alleys or garden alleys were the only access routes of the houses to their neighbouring areas. In those days, windows just opened toward the yard, especially since considering social reverence in the cultural structure was one of the most important points in designing buildings and passages. On the other hand, the issue of security was also vital and creating a physical barrier for enhancing privacy and restricted the view of the internal residential space was essential. In a smaller scale, the houses also had high walls with no windows to establish security. Therefore, it can be argued that safety was imperative in those days, and it was considered in designing buildings in a city – from the smallest units such as houses to the largest one which is a city – further discussed in the subsequent chapter.

During the Qajar Era with the respective power for providing security for houses – not cities or roads – it seemed that high walls for security were related to sociocultural aspects, rather than only providing security. However, in the following Pahlavi era, security was provided by a government which was military based, hence the old manner for preserving security was lost; not only in houses but also in the city. Social respect and protection emerged in a new form under the influence of new cultural attitudes. After that, other issues such as the imitation of western development, the phenomenon of the new world order and reflection of European architecture in Iranian architecture impacted Iranian introverted architecture to change it to extroverted architecture. This can be seen first in governmental buildings and then in building other structures like houses. Windows that were previously opened only to yard changed. According to the layouts presented by municipalities, windows opened to the alley or street and

sometimes accompanied by a balcony. Then privacy of the houses changed and became the privacy of the alleys or neighbourhoods.

"In this period, windows opened toward the alleys or streets one after another also Walls became shorter. Visibility of the streets from inside the houses changed them, and a new respect for them was considered, for the first time, they became more adorned and beautiful." (Rajabi, 1976, p. 111)
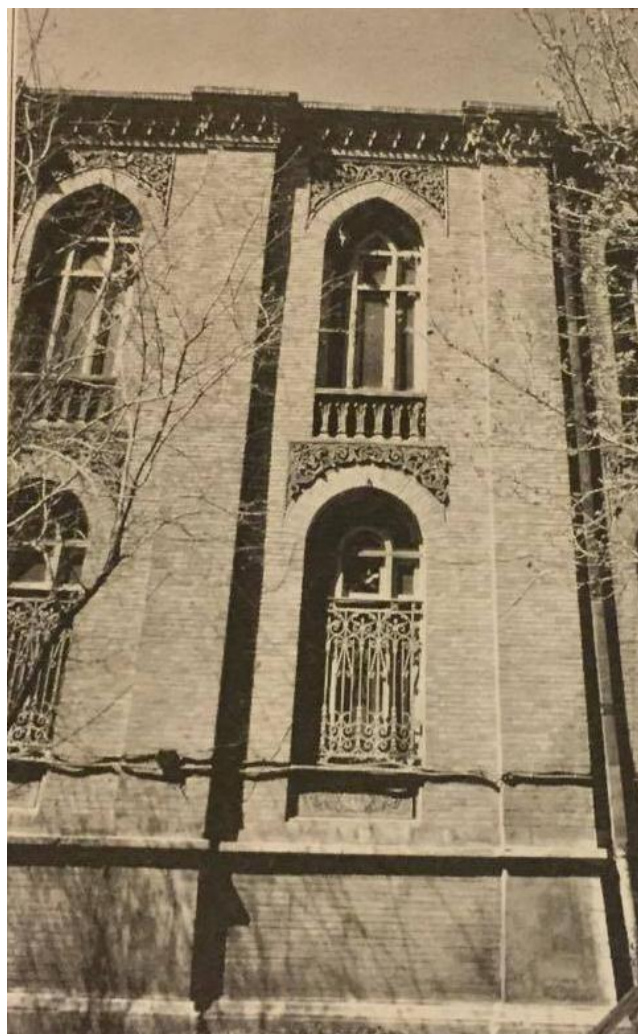
Figure 109: Window of Public Building.
Organization for Registration of Deeds and Properties Building.
Source: Kiani, M. (2004). *Memari dore pahlavi aval,* (Second ed.). Tehran: The Institute for Iranian Contemporary Historical Studies. P, 340.
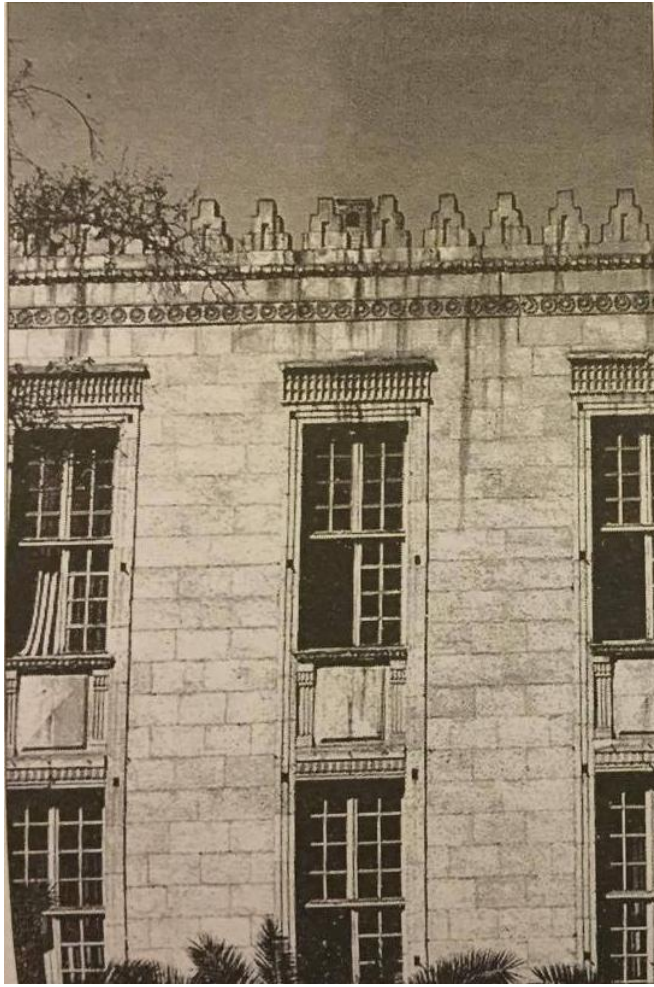
Figure 110: Window of Public Building. National bank Tehran.
Source: Kiani, M. (2004). *Memari dore pahlavi aval,* (Second ed.). Tehran: The
Institute for Iranian Contemporary Historical Studies. P, 342.
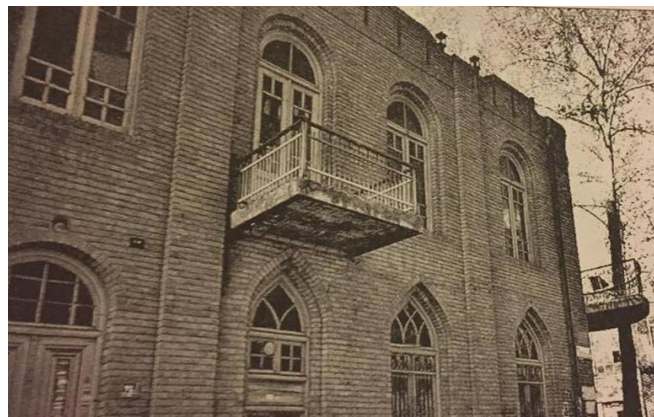
Figure 111: Balcony in Residential Building.Tehran.
Source: Kiani, M. (2004). *Memari dore pahlavi aval,* (Second ed.). Tehran: The
Institute for Iranian Contemporary Historical Studies. P, 338.

Figure 112: Balcony in Residential Building. Tehran.
Source: Kiani, M. (2004). *Memari dore pahlavi aval,* (Second ed.). Tehran: The
Institute for Iranian Contemporary Historical Studies. P, 338.

Figure 113: Balcony of Public Building. Old Building of Post Office, Tehran.
Source: Kiani, M. (2004). *Memari dore pahlavi aval,* (Second ed.). Tehran: The
Institute for Iranian Contemporary Historical Studies. P, 339.

Balcony the new architectural element which was a souvenir of West entered to Iranian housing architecture. Different shape of such semi-open space which had a royal function before (the best example is Aali-Qapu Palace) was used as an imported phenomenon and became pervasive in all buildings even private houses and other social applications. This time, architecture with its precision and taste came to use this new element in the architecture. Windows of previous time show this way of thinking that protecting the privacy of houses is mandatory because they are designed with suitable height from the street levels to prevent direct view to internal parts of the house. On the other hand, windows and balconies in general facades of buildings are signs for kind of architecture and introduce the character and identity of its creators and are considered as the landscape of towns so, they changed to a place for showing art skills and adornments. Architects try to use their opinion for constructing facades of old houses in windows.

At this time and for the first time, metal windows with metal fences replaced wood windows with simple glasses. For greater coordination between the window and the balcony, using metal works with new patterns and figure was used (they were mainly metal marker works of nineteenth-century in Europe instead of traditional motifs) to decorate buildings and urban landscapes. It was directly under the influence of western architecture. In any buildings, windows and façade have very close relationship. (Kiani, 2004, P. 243)

CHAPTER 4

BALCONY, FORGOTTEN ARCHITECTURAL ELEMENT IN IRANIAN URBAN RESIDENTIAL BUILDINGS: SOCIO-CULTURAL, POLITICAL, ECONOMIC, AND ENVIRONMENTAL FACTORS

4.1. Misuse and Negligence of Balconies in Residential Buildings: Unpleasant Face of the Balconies of Urban Residential Buildings in Tehran

In several decades of modernization which is accompanied with the rise of urbanization and changes in the buildings' structure types, the balcony became an integral element in the design of residential buildings in Tehran. It was accompanied by the invasion of new values, norms, and institutions as well as rapid changes in society and the physical environment. Hence, the balcony became a symbol of modernization in Iranian housing architecture, evident in every residential building. However, even by having a good form in balcony design correspond to its original physical features[11], there is still no better usage or functionality for balconies – terming it a useless residential space. Balconies do not serve their functional properties as a space to fulfil the need of establishing a "private outdoor space."

In fact, usage and utilizing of the balcony is often varied and frequently far from its original intention.[12] Although there are countless contributions of balconies to life, as well as providing relief to the congested enclosure by

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[11] Balconies original physical features such as placing in facades of buildings on the upper level and touching outdoor space directly.
[12] In general original intentions of balconies in the residential building are providing a private outdoor space for residents for spending their leisure time as well as using light air and openness.

Expanding the living space, there are still several inappropriate sub-roles for the balconies which have evolved over time. These include balconies which are transformed into junkyards, filled with waste material, pickle jars, ladders, empty cartons, in addition to a place to hang wet clothes to dry. Moreover, another diversified function of balconies is locating heating appliances, air conditioners, and satellite dishes in balconies, although providing a modern usage, nonetheless diminishing their role in dwellings. By considering the prevalent situation of balconies, it is clear that they are used as storage spaces instead of being utilized as lively and usable residential zones. An additional, yet rather unfortunate practice entails, covering the balconies with plastic or wooden sheeting or fabric. While in the demographic beliefs it to be a sound design implementation, this method worsens the formal and functional usage of the balcony, where the balcony is defined as the closed warehouse of the apartment. The impact of such practices leads to visual and increasingly confusion of the residents, as well as passing-by pedestrians who visually interact with such spaces whether it is a balcony or storage.

Figure 114 & 115: Misusing of Balconies.Shahrak Gharb district of Tehran.

(Photo was taken by author, 2016)

Figure 116, 117 & 118: Balconies as Warehouse. Saadat Abad district of Tehran

(Photo was taken by author, 2016)
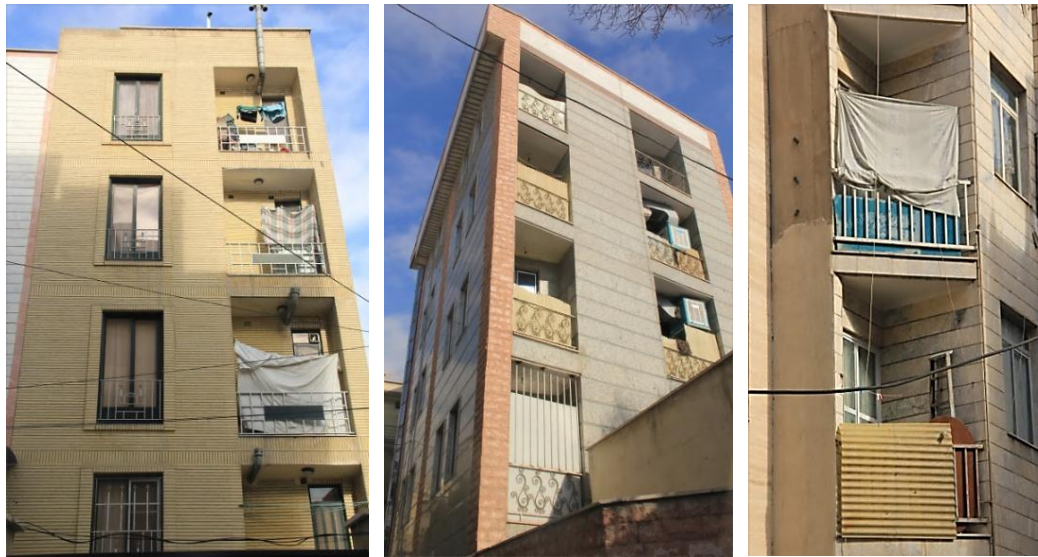
Figure 119, 120 & 121: Covered Balconies. Using plastic and wooden sheeting or fabric for hiding the objects in balconies Ferdows district of Tehran

(Photo was taken by author, 2016)

Figure 122 & 123: Balconies with Different Functions. Locating heating

appliances and air conditioners in balconies

Jeyhoon district of Tehran

(Photo was taken by author, 2016)

Figure 124, 125 & 126: Balconies as Laundry. Colourful costumes are hanged to
dry in Balconies as well as using as Warehouse Azerbaijan district of Tehran
(Photo was taken by author, 2016)

Figure 127 & 128: Fenced Balconies

(Photo was taken by author, 2016)

Figure 129: A Balcony Consigned to Oblivion. Saadat Abad district of Tehran
(Photo was taken by author, 2016)

Ironically, however, recently the real estate agencies have begun considering the apartment balconies as an advantage in their marketing strategies. Some of the real estate experts point out to their customers that the presence of a balcony

prevents small bedrooms from causing inconvenience – especially since they can enclose the balcony with plastic or glass, carpet the floor and use it as an extra closed space. Due to its obvious financial benefits, even the municipality also does not interfere or regulate this ongoing practice. Although this practice implies that balconies still serve "some" purpose, they are increasingly being marginalized and misused by the Iranian demographic.

In fact, it is necessary to question who is responsible for this condition; the residents who misuse the space, the estate agents who sell the space as a potential enclosure, or the municipality which fails to regulate such practices. The answer has its source in the social, cultural, economic, as well as environmental background of Iranian history. In this chapter, the focus will be on clarification of the socio-cultural as well as economic and environmental reasons behind both the emergence and the process of evaluation of the balconies of residential units in Iranian architectural culture.

4.2. Social, Historical and Cultural Reasons

Architecture is a concept which is frequently neglected by the demographic as an important element of public culture – nonetheless, it should at the least be considered through its bilateral interaction with the culture. A man has always endeavoured to express conscious and unconscious thoughts and ideas, through the written and formal medium, where architecture is one of the manifestations of such expression. Culture and social norms appear in the manner of building houses and urban development; bringing the features of buildings and cities under the influence of cultural elements of that society.

According to Qobadi, architecture, and culture mutually affect each other, and if architecture corresponds to the culture and customs of inhabitants, it results in functional and satisfying living spaces. However, if architecture moves against the cultural aspects of society, it becomes increasingly marginalized and leads to dysfunctional spatial relations. (Qobadi, 2014, p. 4)

Today in Iran, perhaps more than any other times, prevalent disorders exist in the field of architecture and urban development. Buildings that have no relation to the history and culture of Iran are becoming an increasingly unavoidable problem. There is no cultural, social and philosophical context which they manifest or promote; rather they are built according to individual preference. These buildings are built with the adoption of foreign examples and can be seen in every corner of Iranian cities and are becoming centers of attention. On the other hand, especially in the field of residential architecture, it is clear that the construction of buildings is ruled by economic perspectives toward architecture and cities. For seeking profit as much as possible, the cultural, social and natural characteristics are completely ignored in the construction of residential buildings. Such decisions degrade the architectural aspects to the standard of being used just for building a shelter, causing housing to be considered merely as a structure in such a society.

Due to non-compliance with cultural patterns and lifestyles of Iran, residential buildings and elements such as balconies, are not favourable environments for Iranian growth and development in both material and spiritual aspects. Based on Rappaport, housing is an institution that is created to meet complex needs and purposes so it cannot be considered merely a structure. Since the construction of a house is a cultural phenomenon, so its shape, organization, and spatial order are under the influence of the cultural environment that the house belongs to. New elements should also be considered according to socially accepted special features of culture, especially since these new elements will have a significant influence on the shape of buildings. (Rappaport, 1969)

However, the balcony is a new architectural element which is in contrast with the cultural aspect of Iranian domestic life. In addition, Qobadi states that changes in residential buildings type and the addition of new elements, such as balconies in housing architecture of Iran, especially with the arrival of modernity, are in contrast with the identity of Iranian culture and society. (Qobadi, 2014, p. 4)

The history of Iran in the decades before the Islamic Revolution shows an unfortunate reality of following Western architectural elements and patterns while becoming alienated from their traditions. In other words, the balcony is a souvenir in Iran adopted from the West. Its existence in housing architecture of Iran with an entirely various form, shape, role, and usage adapted from a different culture is an example of the lack of correspondence between architecture and culture. For example; no attention is given to preserving the privacy of the internal parts of the house – where the growth of high-rise buildings with projecting balconies allow a complete and unfiltered view of adjacent residences – leading to cultural abnormalities. "Privacy" in Iranian domestic life, in a country ruled by Islamic laws and thoughts, plays a crucial role in people's way of living. The importance of confidentiality of private life in Iranian culture is apparent. For instance, Iranian women are more comfortable in private spaces which are not visible to outsiders – leading to the use of thick curtains to diminish external visibility.

In the current times, the major factor that diminishes the importance of balconies is that they are exposed to the neighbours and outsiders. Balconies which project out from buildings into the outside environment, fail to consider the confidentiality of private life; a matter which is in contrast with the cultural aspects of Iranian society. The specific feature of being an in-between realm of public and private space makes the balcony an open transitional space from inside to the outside environment with the opportunity of seeing public spaces and vice versa. But the concept of gradual passing from inside to outside, private to public – which balconies offer in dwellings – distinguishes itself from the concept of gradual passing in Iranian traditional houses which was the main principle for maintaining a more introverted housing typology. Residents employ the use of canopies, wooden and metallic panels, plastic sheeting and creeper plants to avoid being exposed to strangers. In this regard, it is clear that the balcony failed to satisfy the Iranian residences as a semi-open transitional space and instead seems to be against the social norms and principles of the Iranian people.

Expanding more on confidentiality of Iranian private life, which subsequently leads to the definition of this subject matter and its significance, helps in understanding why balcony could not fulfil the human need of establishing a "private outdoor space." A brief study of the history of Iranian traditional housing architecture would be beneficial, especially to find out the importance of confidentiality in Iranian private life and to highlight the influence of sociocultural aspects on residential architecture.

4.2.1. Importance of Confidentiality of Iranian Private Life: Iranian Culture and Architecture Imbued with Islamic Thoughts

In Iranian cultural life, Islam is an important factor in the lives of people – where religious issues, gain much more credit in society. In general, the Iranian culture and mind-set have been shaped by the influence of Islamic thoughts and vision throughout a long historical period. In martyr Mutahhari point of view Iranian culture is imbued with the religious thoughts and beliefs – a cultural characteristic that is obvious in all historical periods in Iran – a major reason in why Islam has successfully entered all aspects of Iranian life. Martyr Mutahhari relates that:

"From the beginning of Achaemenid period, all parts of current Iran and some other neighbouring countries were under one decree for about two thousand five hundred years. From these twenty-five centuries, we have lived under the title of Islam for about fourteen centuries. This religion entered the context of our lives and is considered as a part of our lives. We nurture our children by its customs, we lived with its customs; we worshiped our God according to its customs, and we buried our dead according to its customs. Our history, our literature, our politics, our judgment and justice, our culture, our social affairs, and eventually everything has been associated with this religion." (Martyr Mutahhari, 1989, p. 50)

In addition, the principles which Islam has for women and men under the umbrella of 'hijab' reveals the importance of privacy. It is evident that the demographic endeavours to protect their private lives by choosing an introverted and protected lifestyle in society. Therefore, the issue of privacy retrieved from religious principles could be addressed as the most important reason behind

choosing introverted life style and subsequently an introverted architecture. Religious culture has been a major issue in the formation of architectural works in Iran especially in traditional housing architecture of Iran.

According to Seifian and Mahmoodi, one of the main principles of Iranian traditional architecture – especially after Islam – is the confidentiality of people's private life. The expression of the principles of privacy can be observed in urban life and architecture and different scales of space. (Mahmoodi and Seifian, 2007, p. 4)In this essence, the confidentiality principle can be considered as one of the main factors that have a great influence on the physical organization of the cities, in a country with Islamic cultures, such as Iran.

4.2.1.1. The Significance of Confidentiality of Private Life of People in Traditional Iranian Houses

The primary point in space privacy in countries with Islamic thoughts is to control social interactions between men and women. In Islamic law, emotional and sexual relations are considered the core framework of family and are employed to strengthen the family foundation or reduce social tensions and prevent disorder in the community. (Memarian and Brown, 2003, P. 188) This implies that the "home", is the family shrine. Thus, Islamic house is closed to the outside world, and family life is separated from common social life. (Burckhardt, 1997, P. 148)

The importance of the private territory can be seen in Islamic opinions about family unit where it says "family is the foundation of the socio-cultural structure of the society and this unit as a homeostasis unit can ensure ideological and cultural stability." (Saleh, 1998, p. 541) In this essence, traditional architects paid more attention to the interior view of the buildings rather than its exterior parts. As a result, the family home was considered as a cool and refreshing oasis and a world full of happiness and fun. (Burckhardt, 1997, P. 138) The exterior views of the buildings were very simple with small openings placed higher than the eye-level of passing by pedestrians, ensuring internal privacy from the outside. The

entrance door was established as the only exception from the exterior view, where Hakim points out that even the location and position of doors and windows was selected in the way of creating a barrier for passers-by to see inside. (Hakim, 2002) It means residential buildings in Islamic cities were built to meet the needs of residents such as "high walls without any windows towards public areas, to separate it from such areas." (Warren, 1982, p. 44) Therefore in post-Islamic architecture, the principle of "privacy and lack of vision with regards to adjacent buildings" is highlighted.

Figure 130 & 131: Facades of Traditional Iranian Residential Buildings. Facing public space without any opening and windows except entrance door.

Source: http://negarkhaneh.ir/~payman1/picdetail-163492/

(last retrieved on 21 January 2016, at 13:30)

Figure 132: Facades of Traditional Iranian Residential Buildings. Facing public
space without any opening and windows except entrance door.
Source: http://negarkhaneh.ir/~payman1/picdetail-163492/
(last retrieved on 21 January 2016, at 13:30)

Iranian architects organized a building around one or two central zones, aiming to
isolate the building from the outside world. There was only one entrance door that
connected the inside and outside. (Noor Aghaei, 2007)

"The entrance door of each building can be considered as the most important
factor in monitoring communications. In the most common and easiest form, this
connection is lost by closing the entrance door". (Soltanzade, 1993, p. 173)

The entrance area is a connecting space and functions as an interface; especially
since in many old introverted buildings located in the continuous contexts
regarding physical, functional and visual traits, the building had only one path of
connection to other public spaces – through its entrance. Most of these buildings
were designed without an external view, due to which the entrance area is a
connecting space that connects inside of the building with its surrounding
environment. (Soltanzade, 1993, p. 173)

An additional manner of monitoring the communication was by designing the entrance area to control the actions of strangers – such as the employment of long corridors to prevent internal views. In this essence, owners were able to manage connections with the public space with regards to time and users. In addition, on many occasions, there are separated doors for men and women in mosques and separated entrance doors to interior and exterior parts of some house, allowing the monitoring of communication. Furthermore, two devices were installed on the entrance doors, the *Kobe* and the *Ring*, where the formerly represented male guests produced a deeper, while the latter produced a finer sound and was used by female guests. (Soltanzade, 1993, p. 172)

The high tendency toward creating confidentiality of private life by building a central yard is one of the characteristics of visual confidentiality and introverted rooms, a design perfectly matched with cultural needs in Islamic cities. In Iranian traditional houses, the yard is located in the center of the building and all the other parts of the building, and separated rooms are built around it. The central courtyard was the only way of reaching air, light, and openness in houses. The external features facing the streets employed simpler façade treatments, while more ornaments were considered for internal spaces. The yard also contained a pool in its middle, which acted as the center point of the building and unified all other elements surrounding it. Decorated walls, columns, and Iwans beside flowered gardens, provided comfort to the residents. In terms of physical aspects, the aim of achieving confidentiality extended to the access from public to the private territory, leading to the employment of a semi-private space before entering the house, namely the Iwan. This space is connected to the central yard through an angled corridor and is considered a transitional space between public and private spaces of the. Traditional buildings are designed in such a way to provide more privacy and comfort for their residents. Quiet, large and peaceful spaces of the traditional houses create a suitable space for residents to be able to reach privacy and isolation from the never-ending concerns and commotions of outside world. In this regard, professor Pirnia underlines the introverted character

of Iranian domestic architecture and its difference from the extroverted domestic architecture of the western countries, claiming that:

"In Western countries, we see that the house is such as an open cage surrounded by a clump of trees. The outside environment can be seen from inside the house. In Eastern countries, houses are built surrounded by sunflowers. But in Iran, pool no windows to see the outside environment. The walls were high, and some decorative wall edges could be seen for adding beauty. The only way to enter the house was the main entrance door. This kind of architecture shows that Iranian people wanted to spend an evening with family and away from the eyes of foreigners or go to sleep in peace and quiet". (Pirnia, 2000)

As an additional point, according to Seifian and Mahmoodi the concept of confidentiality of private life in Iranian architecture, is related to security and individual rights. For them, this principle was prevalent until the modern period of Iranian residential architecture; a principle which nonetheless faded in Iranian contemporary architecture due to the emergence of new styles, such as modern architecture. (Mahmoodi and Seifian, 2007, pp. 5-7)Even though, the introverted lifestyle and mind-set still prevail in the Iranian demographic, today's contemporary architecture is distancing itself from traditional Iranian norms and practices.

The arrival of modern architecture in Iran led to traditional houses being substituted with modern designs, representing different and particular features. This evolution of houses during the past periods can be considered as a movement from introversion to extroversion, which has damaged some important concepts and values used in the traditional houses, such as confidentiality of private life. Today's architecture is caught in a confused lack of identity, with no relation between new architecture and old culture. This discord can be attributed to westernization and disorganization as well as the lack of correct understanding of contemporary architecture and its separation from traditional architecture. The primary problems started when traditional values and practices based on Iranian cultural beliefs and thoughts were neglected in attempts of blind imitation.

Besides, today's technology is moving at increasing speed, with a consequential impact on every aspect of society and culture, including architecture. While

traditional Iranian architecture has always employed the usage of current technology as a pioneer of architecture, staying ahead of the curve without using the newest technologies is not possible in modern projects. While the aforementioned holds true, the use of technology should not be in conflict with the identity of the people of a country and must successfully reconcile the divergent directions of tradition and technology in a visibly manifested field such as architecture.

4.3. Economic Reasoning for the Negligence of Balconies

Public and private capital gave shape to multiple opportunities, which changed the Tehran metropolis, to a scientific, educational and industrial hub. Most of Iran's industrial activities and services are concentrated in the Tehran Province, especially in the Tehran metropolitan area, due to necessary infrastructure and administrative importance. Having a high economical concentration caused an increase in job opportunities, which in turn increased migration. In this manner, the population of the Tehran province and the Tehran metropolitan area is growing, leading to inevitable infrastructure development.[13]. In fact, the industrial-service structure indicates an intensifying urbanization and receptive migrant model, further influencing Tehran's development. (Rezaee, 2009, p. 55)

Tehran became the largest hub for all forms of economic activities in the country, and when Iran entered in the global market, Tehran played a mediating role between Iran and other countries. Increasing reliance on oil revenues brought important economic decisions into the hands of a few individuals settled in Tehran. Due to the sensitive role of government in the economy and the seat of government being in Tehran, the city became the economic hub and the largest market in the country. (Rezaee, 2009, p. 55) Increasing the economic role of the government derived from the phenomenon of economic growth, lead to the

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[13] Tehran was about 760 Km² in 1996 and then it was 18.909 Km² in 2006. It means a 2500% growth

establishment of industries, ministries, banks, hospitals, universities, power plants and so on – changing the overall appearance of Tehran.

During recent decades, Tehran has faced numerous problems such as population growth and the country's industrial growth has fuelled a rise in migration to the cities, increasing urban population, increased housing, and declining household sizes among others. Some of the reasons for those mentioned above are irregular periods of recession and inflation, in addition to rising housing and land prices, which lead to increased rents and invert effective demands into ineffective demands. The prices of housing and land have steadily and irrevocably increased in recent years, implying that investments in real estate are not comparable with other economic sectors of the country. In other words, residential and territorial real estate are not considered as durable consuming goods but have nonetheless become profitable investment goods. (Dejpasand and Mohtavi, 2014, pp. 77-94) Although housing in developed economies is not recognized as capital goods but purchasing properties and its transactions are still very attractive for investors; in Iran due to the upward trend of prices in the market exceeds the normal inflation rate in some special periods, it impacts on the attractiveness of such investments in this market.

On the other hand, the unstable economic situation in recent years and the effects of increasing exchange rate on the market of construction materials, cause uncertainty in the construction industry. As a result, the price of building materials, wages and other factors are affecting the construction market by sudden changes in the rate of total costs of housing. But the increasing trends of prices in recent years have shown that the greatest impact on housing prices is caused by changing land prices, where a sudden increase in land prices, brokerage, and speculation, can increase housing prices several-folds, influencing the final sales rate of houses and apartments. (Mehr News, 2016)

As initially mentioned, a house is a product in an economic point of view and this product – like other ones – is subject to the laws of demand and supply. Houses

are not built by their owners anymore, but they are designed and built by government agencies private build-sell firms, where intermediate production firms are actively based on profit-making criteria and materialistic values. In this regard, aesthetic tastes and cultural values of the residents are considered as a tool to attract customers and investments. Although builders and suppliers fail to pay much attention to personal considerations of customers and consumers, they manage to operate in the context of contemporary culture and its values. Increasingly inconsiderable interactions between builders and customers are taking place, where the customers can participate in selecting the form, design, and decoration according to their financial ability. (Fazeli, 2007, pp. 46-50)

As a result, development and progress together with a rise in monetary values of lands in Tehran and an astronomical rise in the prices of residential buildings is the main reason of concentration of capital in this district. Dwellings in Iran, especially in Tehran, generally have minimal standards for habitable space. Storage space in a dwelling has not been taken into account in designing apartments, especially since the occupied land is used as much as possible for liveable spaces. By considering the area of residences, the number of existing balconies and areas of the balconies, it is evident that due to the high price of land in this area, these days lots of residential villas and houses, have been destroyed and replaced by high-rise apartment blocks. This, in turn, has had a negative impact on the size of residential buildings, resulting in a diminished balcony size and decreased balcony usage.

Figure 133: Mass Production of Housing. Saadat Abad District of Tehran. In low
area, residential buildings Small spaces have been allocated to balconies
(photo taken by author, December 2015)

Figure 134 & 135: Small Balconies. Low area spaces make balconies useless
spaces in residential buildings. Yusef Abad district of Tehran
(Photo was taken by author, December 2015)

Figure 136 & 137: Small Balconies. Low area spaces make balconies useless spaces in residential buildings. Narmak district of Tehran.
(Photo was taken by the author, December 2015)

Figure 138 & 139: Small Balconies. Low area spaces make balconies useless

spaces in residential buildings. Shahrak Gharb district of Tehran.

(Photo was taken by the author, September 2016)

Figure 140: Typical Plans of Iranian Residential Buildings and Placement of Balconies in Plans. Prepared by Author[14]

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[14] The placement of balconies, size and the number of them are shown. The size of balconies is the small percentage of the whole plans size. The areas which are colored in green are the balconies, pink ones are living room and hall (generally the hall, living room, Tv room are not separate from each other), orange areas are bedrooms, yellow areas are open kitchens which are common in nowadays Iranian apartments. Purple areas are bathroom; blue areas are toilets. In general because of the traditional type of toilets the bathroom and toilets are separate.

However, using balconies on the facades of buildings became a tool for marketing and visual enticement, "sometimes literally tacked on like a piece of jewellery". (Avermaete, Koolhaas, Boom and Amo, 2014, p. 803) Although the balcony does not add extra square meters to the living space, construction firms in Iran use balconies as a profit-making device, portraying it as an extra storage space. The estate agencies consider apartment balconies as an advantage for marketing, as they encourage residents to cover the balcony area and use the space as an extension of a living room or bedrooms. Examining the arrangement and importance of balconies is crucial in understanding how people utilize them, where the role of balconies is ignored in favour of corridor or living spaces – in many cases leading to a removal from the design. Currently, the prevalent area of most of the balconies is less than 3m^2, indicating a decrease in the importance of balconies in high-rise and small area apartments. (Safarkhani and Zare, 2013)To collect information about their usage and utilization, it is sufficient to study balconies from the outside of the building. Most residents give priority to using the balcony as a place for drying clothes and storage, while many others utilize it for keeping appliances and amenities. A few residents prefer to eat and socialize on the balcony, which provides access to the outdoor, especially in warm seasons like summer and spring. Nonetheless, in many cases, residents do not use their balconies at all and are unresponsive to its role as a spatial and functional element.

4.4. Environmental Reasoning: Unfavourable Results of Air, Noise, and Visual Pollution as well as Lack of Green Spaces on Usage of Balconies by Residents

Due to a high amount of pollution and lack of enough green space per capita, in addition to manmade and natural failures in Tehran, it is clear that psychological well-being has been negatively affected. As a result, many people became aggressive and short-tempered, in addition to an increase in social and physiological illnesses. Due to the difficulties and problems caused by air, noise and visual pollution, people refrain from being outside and are more willing to spend time in closed spaces and prevent themselves from the hazardous impact of

environmental and psychosocial pollution. This is one of the adverse effects stemming from the usage of balconies in Tehran, which has not been utilized properly by the citizens of the capital city. To explore the reasons behind the deficiency of balconies, there are three different categorizations of pollutions, which need to be studied; air, noise, and visual.

For a suitable understanding, it is essential to highlight the context in which the pollution as mentioned earlier is taking place. Tehran is the capital of Iran and the Tehran Province. It is the 32nd national capital of Iran, and it has been Iran's capital for about 220 years, with a current population around 9 million in the city and 16 million in the wider metropolitan area, counted among the largest cities in Western Asia. In the 20th and 21st centuries, Tehran has been the subject of mass migration of people from all around Iran, due to political, economic and social consequences. The unstable situation and the war in neighbouring Afghanistan and Iraq have prompted an increased rush of millions of refugees into the country, drastically increasing the population without sufficient infrastructure to sustain them.

Among the social factors, the population is the strongest pollutant, since there is no pollution in the environment before a settled population. The human population pollutes the environment to meet their needs without any attention to the environment's capacity of sustaining those very needs. In this essence, around 12 million people commute to Tehran on a daily basis and 8 million people stay in this city overnight, contributing to an increase in noise and air pollution. By Considering the heavy volume of incoming passengers to this city with their chaotic traffic and non-standard vehicles, it is evident that there is no place to move and no air to breathe in the capital city. (Safavi and Alijani, 2006, P. 109)

At the same time, industrial activities cause air pollution in Tehran in two different manners – by choosing an improper location for establishing industrial facilities and providing a lack of sanitation without environmental

considerations.[15] In addition to large industries, small industries, such as car body workshops, gas stations and so on, are also considered as important centers of air pollutions. Industries in Tehran are considered as the source of noise pollution in addition to air pollution. (Makhdoom, 1989, pp. 57-68) In addition, the transportation network in the city is very chaotic makes the traffic heavier, where the current network of streets is not enough for the exponentially increasing amount of vehicles. Additionally, the presence of ill-placed crossroads and intersections has increased noise and air pollution in the city center. (Ghayur manesh, 2003, p. 103)

From a geographic point of view, Tehran is one of the most polluted cities in the world, where several factors are involved in its pollution, with the most important one being geographical factors. Tehran is about 800 km^2 and is located on the southern slopes of the Alborz Mountains. The height of this city in southern parts is 1200 meters and is 2000 meters in northern parts, as seen in Figure 123. There is a steady north-south gradient, punctuated by some ripples inside the city. The Alborz Mountains form the northern wall of Tehran, while Bibi-Shahrbanoo Mountains shape the eastern enclosure. Southern and western areas of Tehran are not very high in altitude, so the mountains of the North and East of Tehran prevent the emission of pollutions that mostly are brought by western winds. Prevailing winds blow is from the West to Tehran, where a large number of industries are located, resulting in urban air pollution, especially in the central and eastern areas. (Ghayur manesh, 2003, p. 103)
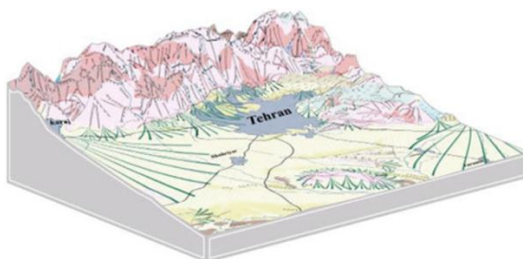

Figure 141: Topography of Tehran City. (Atlas of Tehran Metropolis)
Source: http://atlas.tehran.ir/ (last retrieved on 21 January 2016, at 9:30 am)

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[15] There are more than 7000 active industrial units in Tehran; 30% of them are located in the West, and 54% are located in the South and 16% are located in the East of Tehran.

Regarding climate divisions, Tehran is located in a semi-arid area with the towering Alborz Mountains to its north and the central desert to the south. It is dry from June to August and contains a relative amount of moisture during the rest of the year. The rate of precipitation is low in Tehran since it has a Mediterranean climate precipitation pattern. It can be described as mild in the spring and autumn, hot and dry in the summer, and cold and wet in the winter. (Hejazi zadeh and Parvin, 2009, p. 45)

Environmental conditions such as temperature, precipitation, pressure and wind also exert a strong influence on pollution conditions in the Tehran metropolitan area. During the year, the temperature in the center of Tehran is more than the suburbs, resulting in the formation of heat islands in the center of the city. This increases air flow from outside to inside the city, where these external winds end up transferring more pollutants into the city. Additionally, precipitation plays an even more important role in air pollution than temperature, where it is usually considered as an air purifying factor. However, in Tehran the rate of precipitation is low, and while rain washes the air and cleans it, it evidently transfers aerosols and other contaminants from the air into the soil and contaminates it. According to most researchers, the wind cleans the air in a more effective method than rain because the wind can remove the contaminants from the city and transfer them to outside. But unfortunately in Tehran, due to the lack of sufficient directional wind, the city is covered by smog especially during colder climates. (Safavi and Alijani, 2006, p. 104)

Today the urban life in cities faces many problems such as air pollution, congestion, motor vehicle traffic and mental illness. The main reasons for uncontrolled development in large cities are population growth and migration, causing environmental degradation and increasing environmental pollution. This has also led to the loss of green spaces within cities and a more capitalist land usage. Green spaces are the breathing lungs of the city and one of the most important tools of mitigating negative environmental impacts. Green spaces with various functions have a significant role in the city's beauty, clean air, alleviating

the impact of pollution while creating a perfect atmosphere for rest and recreation. Numerous global statistics show that urban green spaces, especially in dense urban communities, improve physical health, psychological comfort, work quality and efficiency. In Tavahen words, Having enough green space per capita is one of the development indicators of the countries. United Nations environmental organization declared that green space per capita index should be 20 to 25 m^2 per person. (Tavahen, 2004, p. 20)

According to Iran's Ministry of Housing and Urban Development, the proposed per capita parks and green spaces in cities is 7 to 12 m^2, which indicates that the rate of population growth is not matched by the growth of green space.(Aagari, 2002) Tehran is the capital of the country and is faced with uncontrolled development, however, it is in dire need of more green spaces. Overpopulation and building congestion have damaged the environmental quality and many spaces in the city have been destroyed. One of the significant issues in Tehran is an uneven distribution of green space in different regions, where the city has different conditions regarding climate and physical form. Per capita, green space in Tehran is 9.2 m^2 per person, yet this figure is not consistent in different parts of Tehran, with differing standards around the city. In some parts of Tehran, recreational spaces and green spaces or parks per capita have been neglected, especially, where population density and excessive impact of economic forces has caused the loss of environmental quality and comfort and psychological security of residents. The lack of green space and its consequences is one of the environmental reason which forces people to diminish their outdoor activities, resulting in a preference for closed spaces. (Ziari and others,2012, p.102)

Figure 142: Polluted Day in Tehran. Shahrak Gharb district source:
http://tehranmiladtower.tehran.ir/
(last retrieved on 21 January 2016, at 10:30)

Figure 143: Chaotic Traffic in Tehran.
Source: http://taxi.tehran.ir/
(last retrieved on 21 January 2016, at 12:16)

Indeed Irregular population growth combined with industrial and technological development in metropolitan areas has caused many problems for people, such as environmental pollution on a social, psychological and sensory scale. Noise pollution is considered one of the most significant environmental pollutants, which play an important role in creating various problems in big cities. Noise pollution has a direct relationship with technology and industrial technology; in other words, along with the development and promotion of technology, noise pollution problems increase and cause even more problems. Research has shown that noise and mechanical life concerns have caused physical and psychological discomfort for metropolitan citizens, but physical and psychological problems

caused by traffic noise pollution are more severe and more harmful than any other cases. (Shahrdari Tehran, 2016)

The main sources of noise in urban areas are means of transport, including road transport, aircraft and trains. Noise levels of motor vehicles, including motorcycles, passenger cars, commercial vehicles and heavy-duty, are a major contributor to noise pollution in cities. Other sources of noise in urban communities take shape through industrial activities, construction activities, equipment and devices in the home environment – contributing a certain share in the production of environmental noise. (Shahrdari Tehran, 2016)

With the advent and increase of construction in Tehran, a great deal of noise has been produced which causes disturbance and discourages people from actively using their balconies and instead appropriating them as storage and not for breathing fresh air or spending their leisure time, as seen in Figure (144-147).

Figure 144: Covered Balconies. Noise Pollution Caused by Construction of Buildings in Surrounding of Residential Buildings in Marzdaran district of Tehran,

(Photo taken by author, December 2015)

Figure 145: Covered Balconies. Balconies because of noise pollution and air pollution have been covered with plastic sheets, matting, fabric in Emam Khomeini district of Tehran. (Photo was taken by author, December 2015)
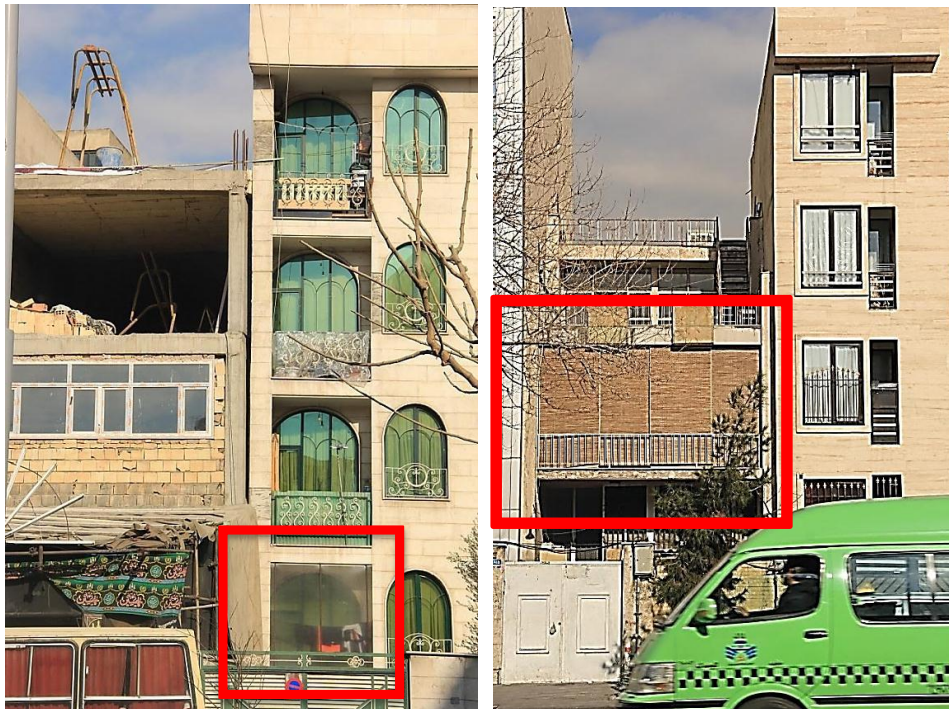
Figure 146 & 147: Covered Balconies. Balconies because of noise pollution and air pollution have been covered with plastic sheets, matting, fabric in Emam Khomeini district of Tehran. (Photo was taken by author, December 2015)

In addition to air pollution and noise, Tehran is also subject to a large amount of visual pollution, which means unpleasant visual and aesthetic decisions, which have a negative psychological effect. In other words, heterogeneous and inconsistent colour, texture diversity in urban space and causes of visual disharmony may be termed as visual pollution (Tabasi and Esmaeili, 2012, p. 134).This disharmony includes form, shape, and color found throughout the city, where a lack of visual coordination in buildings is considered a strong and influential example of visual pollution. Some factors affecting the appearance of the city, which convey a strongly dismal outlook include; bare facades with irregular windows, non-normative framework chimneys, air ducts and ventilation systems, abandoned and unfinished buildings, short and tall buildings with shapeless windows, windows with different colored glass that have no logical

connection with each other, promotional posters and stickers that are put on the tallest lampposts, buildings that do not have any harmony with the surrounding textures, increasing the volume of outdoor advertising, neglected decoration and fencing balconies and transformation of public spaces. (Tabasi and Esmaeili, 2012, p. 141)

Figure 148 &149: Visual Pollution in Urban Space of Tehran.
Source: http://www.bartarinha.ir/
(last retrieved on 22 January, at 11:48)

advertising runaway has dominated on even smallest usable spaces in cities. None of the urban spaces are spared from the influx of advertising labels: the city walls, mailboxes and even walls with the phrase of "Installation of any advertising is

prohibited". Despite constant protests of citizens in controlling annoying ads, municipalities and Beautification Organization of Municipality have failed to take the necessary measures to regulate or control these problems. The lack of deterrent laws to deal with the offenders has changed the appearance of the city which should be a safe zone for citizens- to a place for annoying advertising messages. There is no way for controlling these violations by the current rules. (Mohamadi, 2009)
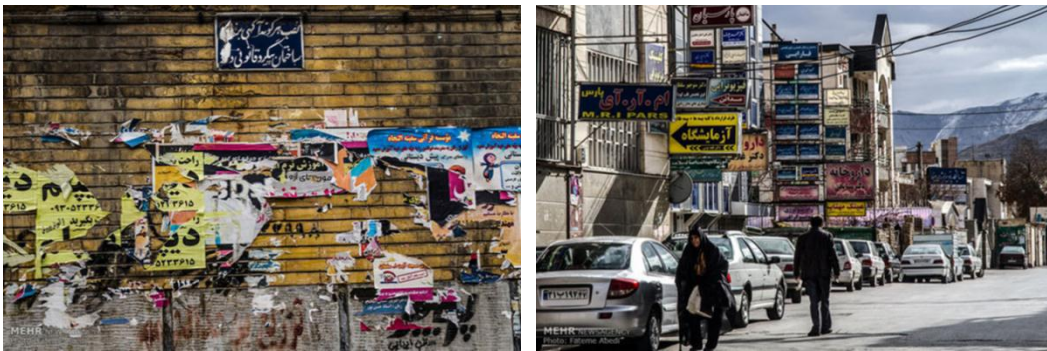
Figure 150 & 151: visual pollution is causing by advertisements and billboards.
Source: http://www.bartarinha.ir/
(last retrieved on 22 January 2016, at 11:48)

At the same time, construction of buildings according to personal tastes has caused a continuous disharmony in the Tehran skyline and cityscape. Exterior facades of the buildings have no harmony with adjacent buildings or climatic conditions prevailing in the area. In the past, Tehran had a distinct historical figure and its architecture, but now, a lack of proportionality in limiting the height of buildings in a local and regional context has distorted the perspective of Tehran. In such circumstances, negligence of municipalities and other responsible organizations including the Department of Housing and Urban Development, in the management of heterogeneous construction has changed the face of Tehran and turned it to a city without a historical identity or distinctive architectural style. (Majidi, 2011)

Figure 152: Visual Pollution Caused by Unpleasant Heterogeneous Constructions.
(Photo was taken by author, December 2015)

Figure 153: Visual Pollution Caused by Unpleasant Heterogeneous Constructions.
(Photo was taken by author, December 2015)

Figure 154: Visual Pollution Caused by Unpleasant Heterogeneous Constructions.
Source: https://7gahnevesht.wordpress.com
(last retrieved on 12 February 2016, at 13:30 pm)

City walls and fencing around the houses especially around the balconies as a result of safety are one of the main causes of visual pollution in Tehran. These walls and fences around the house reduce the depth of view and consequently reinforce visual pollution. Tehran is laden with fences and walls, removing which may have a significant impact on reducing the visual pollution of the city. However, removing these walls and fences has a side effect; which is a reduced security of residents and their properties in dwellings. As a result, people prefer to use the metal fences around their balconies to diminish visual access of strangers into their homes.

Figure 155 & 156: Visual Pollution Causing by Walls and Fencing.
(Photo was taken by author, December 2015)

Figure 157 & 158: Visual Pollution Causing by Walls and Fencing.
(Photo was taken by author, December 2015)
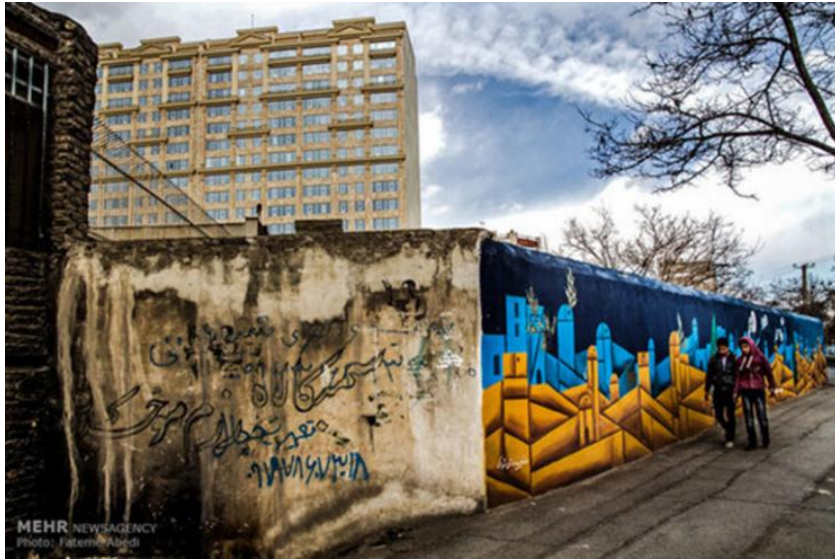
Figure 159: Visual pollution is causing by useless Walls and fencing.
Source: http://www.bartarinha.ir/
(last retrieved on 22 January 2016, at 11:48 am)

Figure 160: Visual Pollution Causing by Useless Walls and Fencing.
Source: http://www.bartarinha.ir/
(last retrieved on 22 January 2016, at 11:48 am)

When buildings appear in the city; windows are born one by one. The combination of windows and walls shapes the initial composition of the city facade. The facades of the buildings are undeniable ornaments of cities that are designed to be eye-catching and attractive. However, in the current times, the aesthetic result consists of a heterogeneous combination and sometimes visually unpleasant surfaces. Balcony spaces were initially designed as places of calmness

and peace when the exterior spaces were more open and consisted of beautiful landscapes. But in the current urban development conditions, with visual pollution, balconies have lost their original function and have become unnecessary storage spaces.

Figure 161 & 162: Untidy Balconies. Visual pollution caused by an unpleasant face of messy balconies in urban space of Tehran Navab district of Tehran. (Photo was taken by author, December 2015)

Figure 163: Untidy Balconies. Visual pollution caused by an unpleasant face of messy balconies in urban space of Tehran Navab district of Tehran.
(Photo was taken by author, December 2015)

Figure 164: Untidy Balconies. Visual pollution caused by an unpleasant face of messy balconies in urban space of Tehran Navab district of Tehran.
(Photo was taken by author, December 2015)

CHAPTER 5

CONCLUSIONS

While the main aim of this study was to gain a thorough understanding of balconies and the reasons behind their non-functionality in Iranian residential buildings, this study, has investigated the emergence of balconies as an architectural element and formal archetype. It does so by investigating the history of practices that led to the development of an in-between space, with a parallel study of similar archetypes with similar functionalities.

Indeed, the study has underlined, semi-open spaces In traditional Iranian housing architecture; which play a crucial role in ventilation of interior parts of the houses. Moreover, the Iwan; a formal archetype attributed to Iranian architecture has been highlighted. A semi-open space locating around the courtyard and responsible for controlling the climate of domestic areas as well as a factor for promoting the spatial value and quality of a house. Iwan is a kind of public realm of in-between space of indoor–outdoor, public –private in the domestic life of Iranian people.

Analyzing balconies in the framework of Iran's modernization were the second step of the study. In this section of study arrival of modernity which was accompanied by industrialization and changes in architecture has been considered.

In Iranian history, modernization is associated with the ideas of progress, rationalism, civilization, innovation and westernization in all sectors of life. At the beginning of Reza Shah's Era, in the early 20th century, a new social class emerged in the city and a half traditional–half Western urban society was formed. It leads to social disorder and confusion. However, Modernity in Iran was fundamentally different from Europe; in Iran in addition to concepts such as technological progress and economic development; it also contained cultural reforms. Some modernists put emphasis on overall structural change, the

especially religious structure of the society and supported complete westernization. The transformation also applied to urban and architecture under the umbrella of modernization transforming introverted architecture to an extroverted one and changed the spaces by subtracting old architectural elements, such as Iwan, and adding new architectural elements, like the balcony, to domestic buildings.

The most important feature of Iranian architecture that is considered as a distinguishing trait of this from other styles, especially Western architectural styles, is introversion. There are several reasons for the emergence of these features, including geography, culture, and requirement of privacy, considered to be an irrefutable principle in Iranian architecture. Introverted architecture puts architectural elements and parts of buildings around a yard, so buildings have a direct contact with the inside space, but its contact with the outside is cut by using high walls. With modernization and westernization, principles of extroversion in architecture rejected backward and traditional modes of thought. Extroversion was the most important phenomenon of the architecture in the First Pahlavi Era, however, one which could not be adapted to the existing mind-set since it was the result of modern thinking and linked with a modernist process.

The formation and presence of this phenomenon in the Iranian architecture are discussed in detail in Chapter 3. The first governmental or non-governmental structures in the late Qajar Era and ideological and social changes at the start of the first Pahlavi Era changed the most important characteristic of the Iranian past architecture. Buildings constructed in all areas suddenly turned from inside toward the outside. This sudden and fundamental change had deep influences on other elements of Iranian architecture and caused the emergence of new cases in the field of architecture and urbanism including the construction of streets, alleys, the emergence of windows and balconies on the facades; in other words, a new space was created.

The discussion is developed in Chapter 4, where several decades of modernization accompanied with the rise of urbanization and changes in the buildings' structure types, led to the balcony becoming an integral element in the design of residential buildings in Tehran. It was accompanied with the invasion of new values, norms, and institutions, becoming a symbol of modernization in Iranian housing architecture, evident in every residential building.

Balconies which are not used properly according to their function. After the sudden development of urbanization and industrialization and increasing population, a more western approach to architectural style gradually became prevalent in Iranian society. As a result, today many residential spaces contain balconies, which appear to be functional and useful, yet are neglected and unknown by the Iranian demographic.

For those who live in big industrial cities and forced to choose vertical location having even a small balcony for enjoying fresh air and is a welcoming opportunity. However, the appearance of balconies has changed over time, with most balconies comprising of waste materials, pickle jars, stovepipes, empty boxes, ladders and other useless objects, in addition to being used as a space to dry laundry. These days, since urbanization and living in small apartments is prevalent while living in large houses with yards has become an unreachable dream, the importance of balconies is even more obvious. In fact, the only open space in the house is the balcony but more often it can be seen that residents do not use it correctly. What can be seen today from the balcony reflects the fact that the real usage of balconies has long been forgotten. The balcony of a house should be the source of visual comfort for passerby people, but now it can be seen that they are full of waste materials as their main consequence is disturbing city appearance. Due to the incorrect function of balconies in Tehran, it seems that constructing balconies is a fixing duty because balconies are not used according to their original duties and as a result has lost their identity.

It is necessary to question who is responsible for the misuse of balconies; the residents who misuse the space, the estate agents who sell the space as a potential enclosure, or the municipality which fails to regulate such practices. The research has attempted to answer these questions from economic, environmental and sociocultural perspectives.

Today in Iran, perhaps more than any other times, prevalent disorders exist in the field of architecture and urban development. Buildings that have no relation to the history and culture of Iran are becoming an increasingly unavoidable problem. There is no cultural, social and philosophical context which they manifest or promote; rather they are built according to individual preference. These buildings are built with the adoption of foreign examples and can be seen in every corner of Iranian cities and are becoming centers of attention. On the other hand, especially in the field of residential architecture, it is clear that the construction of buildings is ruled by economic perspectives toward architecture and cities. For seeking profit as much as possible, the cultural, social and natural characteristics are completely ignored in the construction of residential buildings. Such decisions degrade the architectural aspects to the standard of being used just for building a shelter, causing housing to be considered merely as a structure in such a society.

The balcony has always been a new architectural element which is in contrast with the cultural aspect of Iranian domestic life. Its existence in housing architecture of Iran with an entirely various form, shape, role, and usage adapted from a different culture is an example of the lack of correspondence between architecture and culture. For example; no attention is given to preserving the privacy of the internal parts of the house – where the growth of high-rise buildings with projecting balconies allow a complete and unfiltered view of adjacent residences – leading to cultural abnormalities. Therefore, residents employ the use of canopies, wooden and metallic panels, plastic sheeting and creeper plants to avoid being exposed to strangers. In this regard, it is clear that the balcony failed

to satisfy the Iranian residences as a semi-open transitional space and instead seems to be against the social norms and principles of the Iranian people.

Nowadays, balconies not only do not have an interesting view in the eyes of passersby but also they are changed to become waste storage facilities. The inappropriate use of the balcony would disturb the serenity and psychological security of family members as well. The balcony is a part of public space of the city, due to which, citizens are responsible for keeping them in good conditions, to avoid visual pollution.

Unfortunately, in Iran, residing on an elevated level and being seen by neighbors is undesirable, they always cover their windows with thick curtains to maintain a level of privacy. Once again, balconies that are main showcases of a city become a visual pollution, where unorganized and sloppy balconies become a negative aspect of the cityscape. The attractiveness of urban space is necessary for the survival of its social life, not just as its positional traits.

The role of municipalities and citizen participation in balconies role in residential texture development also is important. Citizens' participation has a key role in observing principles and standards of urban beautification and training in this respect because this can reduce the visual confusion and enhance the beautiful city appearance. In fact, all citizens alone have an important role in improving the urban visual. Without a doubt, municipalities and responsible institutions also have duties for organizing and supervising the urban landscape. Providing strong rules for harmonizing building facades based on local characteristics and governing culture in the society and offering suitable standards. it can be an efficient tool for shaping and organizing the spaces and then having a more pleasant environment for balconies. On the other hand, city authorities cannot punish or legally penalize landowners for hanging their clothes on the balcony to dry. To fix this problem, it is necessary to promote a strong education system for cultural development. Paying attention to the detail and preventative measures

should be taken on an individual basis. It is necessary for the municipality to take help from the media or legislation to guide citizens for positive activities.

This is essential to the city for having a better appearance. It is obvious that having an ordered and calm city, and therefore healthy and happy citizens, is possible only with the participation of the people and the ambition authorities. Cities are the most complete and most comprehensive form of social life, and any scientific, economic and artistic progress is achieved in this context. As the apartments are the place for living of persons and all things are formed in this location. Different stages of family life are formed or is under the influence of it; therefore it is necessary for everyone to be familiar with social rules about living in an apartment for reaching higher peaceful life and also improving their social and family situation.

Today, urban life in cities faces with many problems such as air pollution, congestion, noise pollutions. The main reasons for uncontrolled development in large cities are population growth and migration. This is causing environmental degradation. Tehran is the capital of the country and is faced with uncontrolled development but due to more than enough facilities and services, it needs more green spaces. Overpopulation and building congestion have damaged environmental quality.

The balcony is a space that has height differences in comparison with other spaces around it so that the other spaces can be seen from this point. The purpose of building a balcony is creating a space in front of the building as a place to relax or watch surroundings while maintaining privacy and comfort. Today, the quality and quantity of outdoor space such as balconies are reduced increasingly. Due to urbanization, living spaces are becoming more and more closed with less green spaces. in contemporary apartments balconies are the only space for enjoying physiological necessities like fresh air and direct sunlight. In this situation, restoration and correct use of balconies are vital.

Therefore, the best and most efficient solution for citizens and municipalities participation to take advantage of the balconies and the privacy of citizens is creating green spaces in the balconies. To achieve a higher standard of living through the improvement of environmental quality, a possible new addition to the Iranian balcony and architecture design can be the "Green balcony", which is derived from the concept of sustainable development. This method can be used to increase the per capita green space, improve environmental quality and sustainable urban development. The practical use of green balcony is one of the optimal utilization of urban space, where green balconies have many economic, social and environmental benefits. For instance, reducing air pollution, reducing greenhouse gas emission, absorption of pollutants, reducing the ambient temperature and energy consumption. Using Green balconies in large-scales in a city in terms of environmental issues can be very useful because of absorbing carbon dioxide and producing oxygen. This process contributes significantly to reducing air pollution.

Another environmental impact of green balconies is reducing or adjusting the intensity of noise pollution in large cities. Green balconies act as a sound insulation and has a high ability to absorb sound waves. Cultivation layer of Green balcony can reduce low frequencies, and vegetation can also reduce higher frequencies. As a result, this method is very useful for buildings in the cities like Tehran. Green Balcony has also heightened the aesthetic benefit. Creating beautiful scenes on the balcony by using flowers has a great influence on adornment of building appearance, but it has a large impact on city beautification. Also, they have positive ecological impacts on maintaining mental peace of family members and pedestrians in the street.

A balcony is a shared place between the internal and external environment of the house. So, by using a correct design and suitable decoration to increase the beauty of the city. This helps to keep the spirit and vitality of citizens. Regardless of the size of the balcony; it can be designed and decorated as a garden. Also planting

the variety of healthy and organic vegetables in this garden and providing a green cover for balconies by plants to reduce the view from other adjacent houses, maintaining privacy and enhancing the visual aesthetic. It is increasingly essential to consider the rights of other citizens and prevent from using the balcony as a storage space, contributing to a positive city aesthetic. In addition, providing suitable decoration, suitable for the geographic location and seasons is an added must in highlighting its visual importance.

Recently, a new technology is presented to help balcony to restore their lost identity. The new technology has introduced special glasses for balconies. In this design, balcony can be considered as an internal space of the house so residents will attempt to clean this part of their house, too. It gives people the chance of having a flexible balcony space. By Opening the glasses get direct access to the fresh air in hot seasons and by closing the glasses in cold seasons reduce energy consumption as well as having a place for seating with family members. It gives the residents the opportunity of reducing noise and air pollution effects too. It also helps Iranian people to control the privacy of their balcony by using reflective types of glasses and suitable curtains. People by using heating devices in their balconies can make a comfortable place for enjoying the view of outside environment in cold seasons. They can furnish their balcony like the indoor parts of their house. In other words they can expand the internal living spaces of their house.

The purpose of this research was never to persuade people to return to the past or imitations of traditional architecture. In fact, the aim is to preserve the historical legacy and formal tropes and understand how valuable concepts of space and place have been neglected and abused in current housing practices. Learning from these values can help develop better architecture and give shape to better regulations. for reaching a better understanding of this attitude, it is necessary to scrutinize and criticize Iranian housing today, which is under the influence of economic aspects, fashion, extreme individualism and consumer-based

livelihoods. While all the mentioned aspects are important and useful for global and local growth, environmentally aware and sustainable design must also be added to the list of motivating factors for design. Where citizens and government, residents and builders, clients and architects, must all make a joint decision to improve not only the visual aesthetic of the city but also its quality of life.

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