

Principles of Evolutions in the Pattern of Tehran Houses; Pahlavi I, Pahlavi II, and Post-Revolution Periods*

Marzieh Sadat Ahmandnezhad^a- Cyrus Bavar^{b**} - Neda Ziabakhsh^c

^a Ph.D. Student in Architecture, Islamic Azad University Tafresh Branch, Tafresh, Iran.

^b Associate Professor, Architecture Department, Islamic Azad University Saveh Branch, Saveh, Iran (Corresponding Author).

^c Assistant Professor, Architecture Department, Islamic Azad University North Tehran Branch, Tehran, Iran.

Received 13 September 2022; Revised 18 July 2023; Accepted 16 September 2023; Available Online 18 March 2024

ABSTRACT

Modernity development of architecture and urban planning during the Pahlavi Era has been more manifested in the physical aspects of the house rather than the semantic and content factors, which have been considerably changed and critical in the contemporary era. It can be claimed that the quality of residence and settlement of the house and the relationship between individuals and space have mainly changed since the Pahlavi Era. Like other developing countries, the renovation process became critical in Iran, and the cultural aspect was ignored in the economic and social planning despite the available few experiences. In that era, the architectural body that always was mixed with cultural concepts became separated from them. This study addresses the cultural factors, architecture, and urban rules affecting the physical changes in the houses constructed during Pahlavi I, Pahlavi II, and post-revolution periods. The main question asks how the changes in construction and renovation rules affect the pattern of houses in the Pahlavi Period, as well as the physical pattern of houses. This study aims to find the effect of evolutions in the spatial patterns of Iranian houses and the house construction and design rules as independent variables on the spatial features of modern houses as the dependent variable during two periods of Pahlavi (I and II) and after the revolution in Tehran. The data are collected through case studies and documentary samples. The research method is qualitative based on the historical-descriptive technique. The data summarization has been done based on the content analysis to assess the effective data and components. Finally, the examinations are done in the house patterns of each period. The results indicate that indicators of architectural patterns and construction rules have affected the different social classes in each period. The advent of modern architecture and laws of municipalities (that act as law enforcers) provided the field for such changes and evolutions. These rules led to some pattern changes and the loss of Iranian architectural indicators due to their imposed restrictions. Moreover, the government-people-architects convergence played a vital role in urban and architectural modernization and evolution.

Keywords: Physical Pattern of Housing, Pahlavi I and II, Post-Revolution, Tehran, Construction Rules.

* This paper is derived from the Ph.D. thesis by the first author titled "Principles of Evolutions in the Pattern of Modern House (Analysis of the Effect of Factors and Rules in the House Construction since the Pahlavi I Period till Now in Tehran)" guided by the second author and consulted with the third author

** E_mail: cyrusbavar@iau-saveh.ac.ir

1. INTRODUCTION

Effects of social and cultural evolutions of the society can be seen in the residential houses, which are one of the most significant Iranian architectural types. In the Qajar and Pahlavi periods, the architecture of houses was influenced by the social approaches resulting from European art, which was obtained from the social transactions between Iran and Europe. This period is one of the missing loops of the traditional architecture of Iran, which was shaped based on a certain pattern and within a framework based on the traditional ideals of the society of that time. A review of traditional houses in old and new Tehran perfectly indicates the process of these evolutions. These changes occurred not only in the general form of buildings but also in the spatial prioritization resulting from the changes in the plan of houses had a direct effect on the façade of buildings. The buildings constructed during various periods of Iran's architectural history, including the contemporary era and in the Palavi I period are classified into three categories based on the "construction founder" and

"investment source:" "governmental buildings," "public buildings," and "private buildings." Private buildings play a significant role in defining and explaining the architecture of that period. In the Pahlavi I era, many factors influenced the architecture of private monuments, which are divided into two "governmental" and "non-governmental" groups. Specific features of the government at that time and governmental measures gave an important position to the government agents. The government of Pahlavi I directed the country toward European modernization (Zarkesh 2008, 29). "Therefore, the government encouraged people for modernization, and it was the starting point of evolution in housing architecture by people, particularly the aristocrats and the educated." (Zarkesh 2008, 29). Reza Shah Period was the time for the eclectic morality of many architects, which led to the construction of public and residential buildings in which populist features were seen, while glory and privacy were observed and buildings were extroverted (Zarkesh 2008, 31).

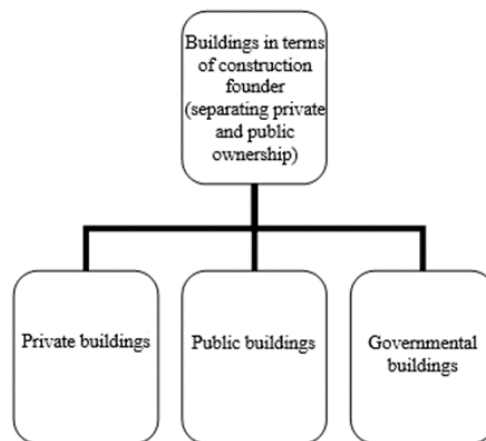


Fig. 1. Classification of Buildings

It seems that architectural pattern indicators and construction rules of each period have influenced the various social classes, and changed the physical features.

2. BACKGROUND

Many studies have been conducted on housing changes and evolutions during the contemporary era, and their results can be used directly or indirectly. Rastjoo et al. carried out a study titled "The Typology of the Spatial Structure of the Contemporary Iranian Homes Relying on Confidentiality and Hierarchy" to formulate the pattern of spatial relationships in the contemporary house regarding the culture (Rastjoo 2018). Aghalatifi et al. conducted a study titled "Impression of Meaning of Home from Physical

Transformation in Contemporary Era of Tehran" to examine the sensory communications in housing. This study introduces physical changes as the reason for reduced sensual and belonging dimensions in the home. The results of this study are highly important in processing physical changes in housing (Aghalatifi 2017). Khaghanpoor et al. carried out a study under the title of "The Relationship between the Past and the Present in Some Contemporary Residential Architecture in Tehran" to examine the approaches of designers within four parts: façade, geometry, and coordination between components of plan, spatial organization of indoor space and in-between courtyard. In this case, designers play a significant role in physical changes, which are principles of physical evolution (Khaghanpoor 2017). Mohajermilani examined the relationships between rules in the field

of apartment construction in a dissertation titled “Explaining the Role of Regulations in Shaping Common Housing Spatial Organization in Tehran.” It seems that a gap exists in the relationship between housing and construction rule after the Pahlavi period, so this gap must be studied.

first step, library references and case studies are used to collect data, and the research method is qualitative based on the historical-descriptive technique. After summarizing the data and presenting theoretical foundations and bases of study in the second step, the content analysis is done on the effective data and components. Ultimately, the rank and priority of each period in patterns of the house are assessed.

3. METHOD

This study has been conducted in two steps. In the

Table 1. Analytical Model of Study

Topic	Specifications of Qualitative Research
Objective	Interpretation, analysis, and description of the settlement in form and social classifications
Society	Representing components of modernization and eclectic in the architecture of Pahlavi society and after the revolution
Sample	The small sample group is usually selected from the available samples (ten case studies from Pahlavi I and II despite the constraints in providing initial data on historical housing)
Data Collection Techniques	Observation, documents, etc.
Data Analysis Techniques	Mainly descriptive and interpretative without statistical analyses
Findings	Mainly depending on the environment, statistical non-generalizable
Variables	Most variables are not defined and controlled accurately.
Report Presentation	Mainly descriptive through story type and history techniques

4. THEORETICAL FOUNDATIONS

4.1. House Pattern during the Pahlavi Period

The architecture of Iran became irregular in the late Qajar and early Pahlavi periods. The eclectic buildings appeared due to architects’ independence from a specific historical period; those buildings adhered

to previous thoughts and current modernization. “Modernity introduction to Tehran goes back to the late Qajar era and apparently to the Pahlavi period when the appearance of Tehran was changed” (Pakdaman 1993, 65). “The first changes occurred in the thinking style of architects and other artists” (Saremi 1990, 47).

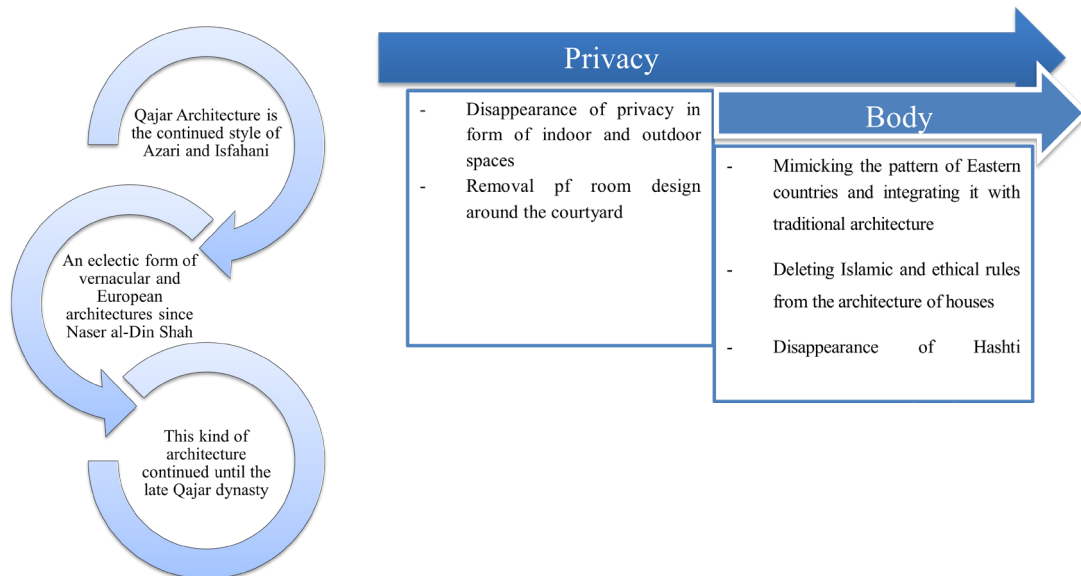


Fig. 2. Changes in Architectural Techniques during the Qajar Era

5. RESEARCH PROCESS

“In the traditional architecture of Iran, a house in continuous, dense, and introverted urban fabric was considered a private space for family life” (Banimasoud 2008, 262).

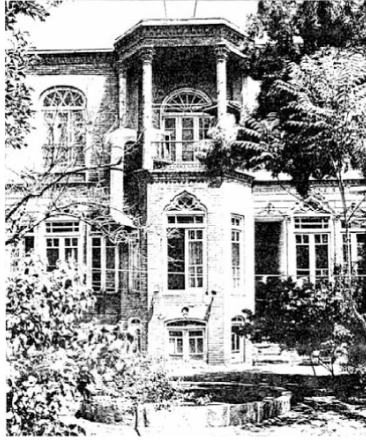


Fig. 3. Siman Toop House (Pahlavi I)
(Banimasoud 2008, 262)

In Tehran, centralization, immigration, and development policies led to a population rise in the Capital City during the 1930s-1970s (Habibi 2005, 31). After Iran was occupied by allies, urban services, and bureaucracy needs made people immigrated to megacities to achieve better conditions (Madanipour 2001, 26). The mentioned factors intensified immigration to Tehran, and facilitated the cancelation or the law of obtaining permission for moving from one to another city in March 1942 (Beski 1996, 6). Some development policies adopted in Pahlavi II, such as economic polarization and so forth made Tehran the key place for civil activities of the government that led to continuous immigration process.

5.1. Analysis of Renovation Effect during the Pahlavi I Era

A wide dispersion is seen in architectural construction during the Pahlavi I era due to various dimensions of settlement in Iran and different social classes. “Modernization was essential after Coup 1920, and the architects of that era insisted on creating buildings and architecture of the new century, which was the century of change and evolution, based on the logical and academic principles... Efficiency, profitability, applicability, space creation, and technology led to the use of new techniques and materials to attract supernatural economic procedures for investment in new industries inside the countries” (Bavar 1999, 61). The prominent changes can be summarized as follows: “outstanding entrances without platforms at two sides of the entrance, change in the opening division, severe attention to the building of the intersection’s corner, using arches not for structural use but mainly for

decorations and the overall combination of building, increasing floors, the advent of a phenomenon called balcony and terrace, use of brick instead of tile, partial or eclectic use of cultural elements, decorative sculptures or architectural motifs and elements before and after Islam, diversity in windows and their numbers, decorations, and their divisions.”

5.1.1. Extroversion

“The most changes were seen in the building’s plan during Pahlavi I. With the instant and immediate presence of new performances in architecture, the plans entered the architectural field of Iran objectively without any local and cultural adaptation. At that time, the previous spatial relationships could not be placed inside the building, and staircases and corridors became important in setting relationships and the performance of interior spaces. The building was divided into two or several halls depending on the performance and scale, which its main specification included long and monotone corridors with numerous rooms at both sides” (Kiani 1994, 245). The extroversion phenomenon versus introversion was the main reason for form changes in the architecture of the Pahlavi Era.

“... Architecture of Pahlavi I Era is the outcome of a kind of evolution in concurrent social structure, which has lost its introverted and closed shape and expanded the view from indoor courtyards to outdoor spaces and urban sub-urban landscapes...” (Bavar 1379, 60). Windows become an important element of that era and are presented for the first time. The balcony, which was a symbol of the architecture of the king’s palace appeared in the city during the Pahlavi period, so the balcony transferred from private to public space. The neoclassic architecture of Iran during the Pahlavi I period is formed based on two reasons: the relationship between Iran and Nazi Germany that neoclassic architecture was the official and governmental architecture of them; returning to the pre-Islam, Achaemenid, and Sassanid art. “Nationalism, mythology, and Zoroastrianism were strengthened during Pahlavi I. Neoclassical archaism architecture are shaped after the close relationships were created between Iran and Germany and German experts came to Iran and most of the governmental buildings were implemented under their supervision” (Bani Masoud 2008, 192).

5.2. Influence of Modernity on the Patterns of Houses during the Pahlavi II Era

“Modernity entered into the modern architecture and urban planning of the Pahlavi Era under the influence of evolutions that occurred in the 1960s in Europe and the USA... Foreign architecture and urban planning journals are still the main references for our architects. However, these references have been imitated superficially, so we are stuck among

different types of modern, post-modern Romanian, etc. eclectic styles” (Etesam 1996, 89-110).

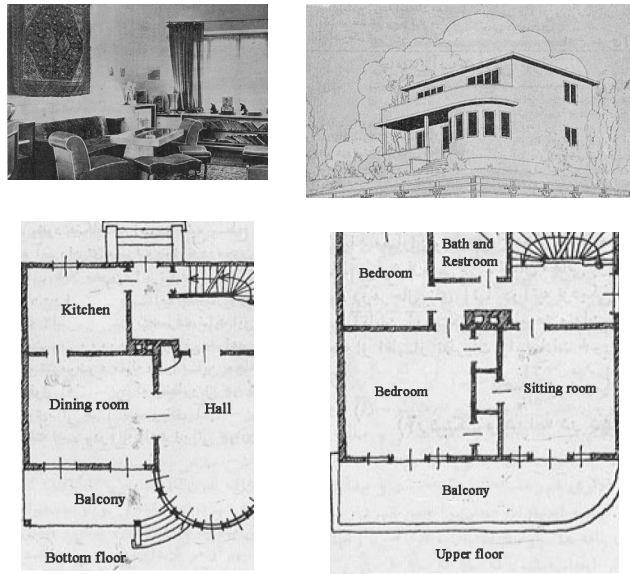


Fig. 4. Interior Space and Exterior Façade, and Plans of a House related to Pahlavi II in Tehran (Architect 1926)

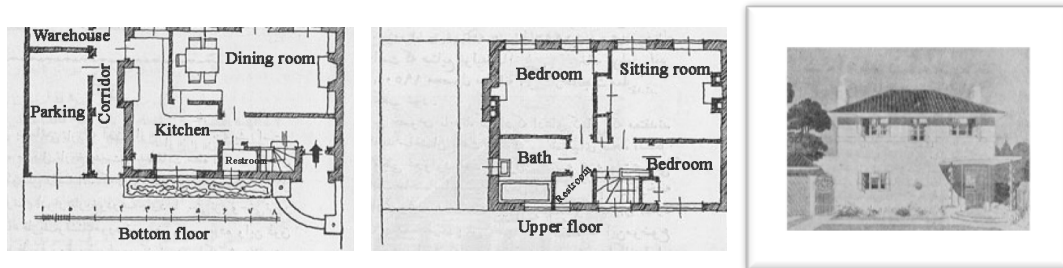


Fig. 5. Exterior Façade and Plan of a House related to Pahlavi II in Tehran, 1949 (Architect 1926)

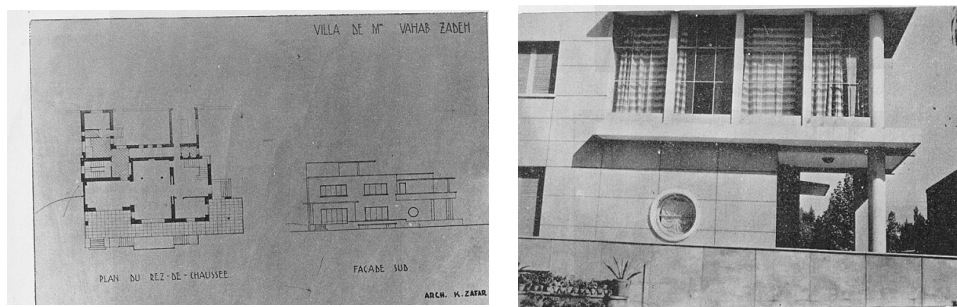


Fig. 6. Exterior Façade and Plan of a House related to Pahlavi II in Tehran (Architect 1926)

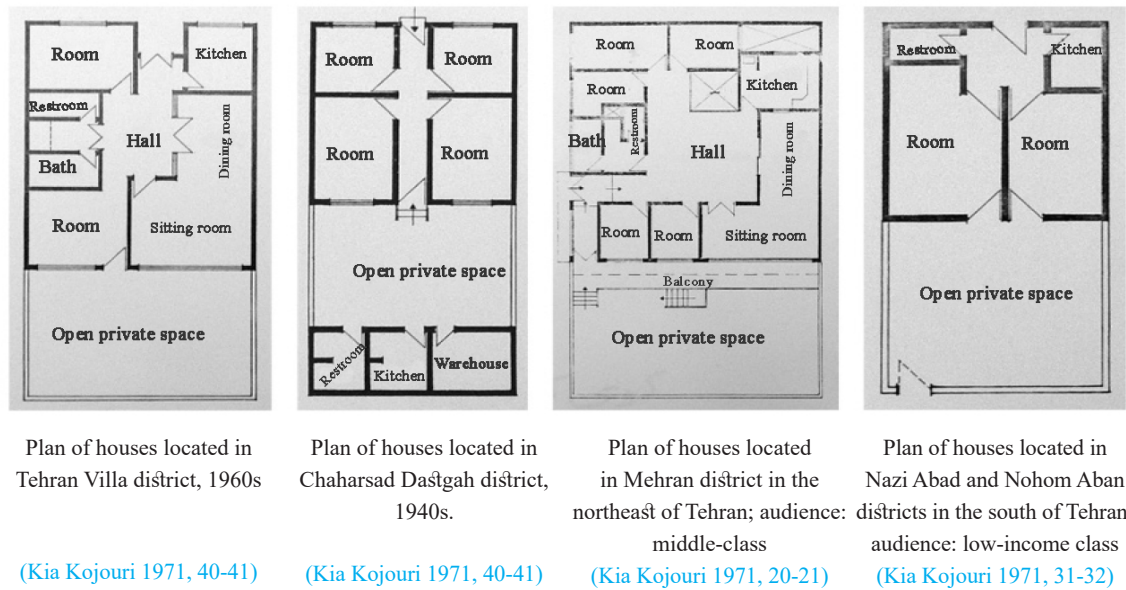


Fig. 7. Changes in Space Arrangement in the Houses located in Alleys or Districts of Pahlavi II in Tehran

The government interfered with the housing production sector to solve the housing shortage in Tehran and looked for a rapid, inexpensive, and simple solution. The new residential districts provided such features based on modern architecture, and the government provided these houses based on long-term loans for the applicants. Residential blocks and neighborhood patterns were new and desirable phenomena that occurred after the interaction between blocks' arrangement and providing inexpensive housing. "Construction of residential houses was a significant part of the plan among those governments that were victorious in World War II. We also should pursue this plan to develop our country" (Sheibani 1925, 28).

5.2.1. Formation of Idea

The government had some strategies for implementing the construction plan:

1. Miscellaneous house construction in vacant or ruined lands inside the city fabric: this technique did not require providing urban infrastructures, but the capital must be provided to purchase lands. The government agreed on this method, and architects disagreed because they could not approve living conditions of old texture. Finally, this strategy was discarded.
2. Construction of new districts around the city: in this technique, the residential alleys or districts were constructed in the barren lands outside the city; however, the required capital should be provided for urban infrastructures, public buildings, and vehicles. Architects recommended this technique because it allowed the implementing principles of modern urban planning to provide living standards. "According to evidence, Iranian architects agreed with their European peers in terms of the inefficiency

of old textures, improper settlement conditions of the poor, and the necessity for finding a solution to the housing crisis. Therefore, direct and indirect referral to European house-construction methods and patterns were effective in building these newly established neighborhoods, especially after World Wars I and II" (Falamaki 2005, 582). Government, people, and architects were three sides of the advent of these neighborhoods.

3. Mass Construction: mass construction led to a severe decline in the quality of life of occupants living in residential towns and complexes. "Therefore, Tehran has become a large construction workshop. The old buildings with precious background are destroyed during days, and identity-less multi-story buildings are constructed at night" (Bavar 2008, 483). "The problem of mass construction and building small houses have not found their main concepts, and not only they could not find the right way but also continue their progress inconsistent with the traditional social structure," Cyrus Bavar explains (Bavar 2008, 485). This case reached a step in which, construction of any house with low quality was better than homelessness (Mohajer Milani 2017, 17). At the same time, mass constructors and cooperative organizations offered some apartments that had no financial and architectural quality but also could not meet the needs beyond the biological needs through primary regulations and standardization of needs (Ibid).

5.2.2. Downsizing Houses and Eliminating Hierarchy and Privacy in Post-Revolution Houses

"The role of traditional worldview and Islam was apparent in the post-Islam architecture. Therefore,

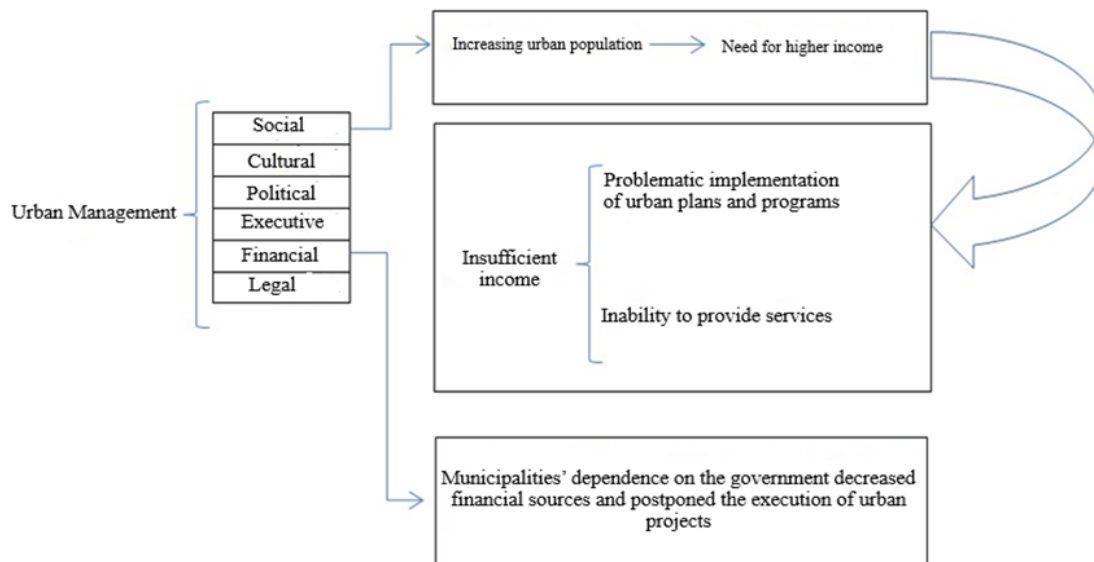
the familial life of occupants is not disturbed since their privacy is kept...The introverted design of houses is another example showing that privacy and mental comfort have been observed” (Masaeli 2005, 32). “The private privacy of houses has been destroyed by the economic and social factors in the contemporary era. The security level has been considerably diminished by removing the whole or a part of distributive elements, including courtyard, ambulatory, vestibule and porch, corridor, and in-between spaces in some residential apartments so that only corridors play the role of connectors between components” (Falamaki 2004, 241).

5.3. Municipalities during the Pahlavi I and II Periods (1925-1978)

5.3.1. Municipality: from Foundation to Pahlavi-I Period

“Before municipality foundation in Tehran, Statistics Organization had the same responsibilities” (Nilghaz 2008, 1008). “The municipality was founded during the Qajar era. More relationships with Europeans made the government keep the appearance of the capital beautiful and clean. The alleys around the Shah’s palace were paved during the early years of Naser al-Din Shah kingdom in 1888” (Mahboobi Ardakani 2537, 128). “The police force was a responsible official of the municipality until Constitutionalism. The first law of the municipality that included 108 articles was approved in 1946 but was not executed.

The Health and General Deputy Organization of Tehran Municipality was established after issuing an approval letter in April 1921.” “On 24 May 1930, the municipality duties were determined” (Mahboobi Ardakani 2537, 133). “The Act 1930 led to more independence of municipality to the government, and facilitated toll payment” (Raisi 2008, 24). Lives of people were considerably under the influence of municipality’s measures. Some rural districts did not have a municipality due to a lack of enough money for urban services; on the other hand, the low income of municipalities in some areas prevented them from doing all municipality affairs. The government immediately executed the recommended tasks of the municipality council under the approved Acts, and took permission from the Ministry of the country to do those tasks that required permission (National Documents and Library of Fars). “The activities of municipalities became more legal after enacting a charter for them since 1930. Some issues such as inspection over the municipality by the top local officials legalized” (National Documents and Library of Fars). Municipalities continued their activities until 1949 after Mohammad Reza Shah Came to Power. The government decided to run the urban associations again due to problems existing in the cities and the minor role of people in urban affairs. The municipality approached its current version after changing the description of duties and administrative system of this organization in 1951.



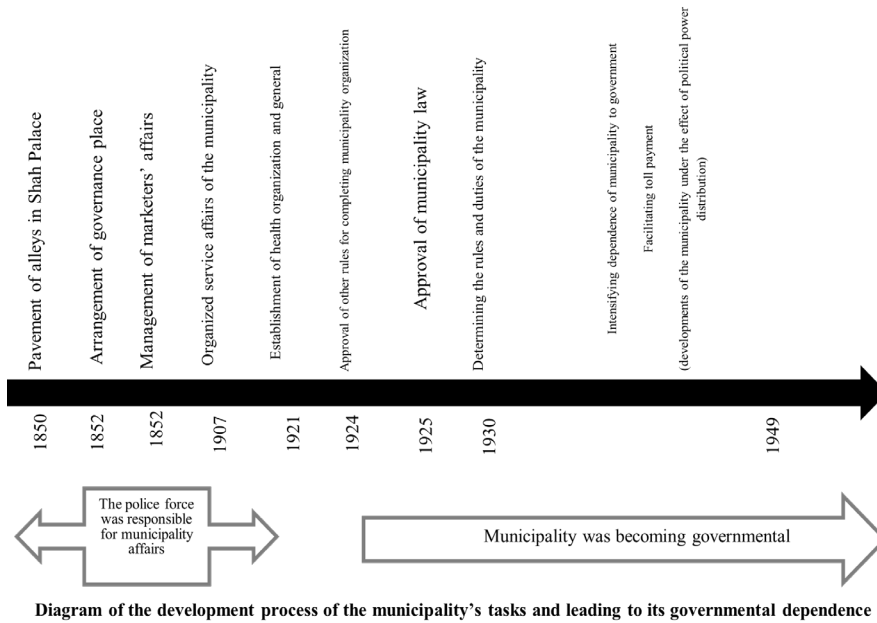


Diagram of the development process of the municipality's tasks and leading to its governmental dependence

Fig. 8. Change in Municipality's Duties and their Governmental Dependence

6. DISCUSSION AND FINDINGS

The factors affecting the development and evolution of the house pattern are studied herein to find their effect rates. The results of each factor are evaluated.

6.1. Factors Affecting the Evolutions in House Patterns and Construction Rules

The financial and income sources of municipalities are highly crucial for urban management because the income generation of municipalities has a considerable effect on the services provided to citizens. On the other hand, insufficient income not only prevents creation of essential services in the city but also makes the implementation of all urban plans problematic (Jamshidzadeh 2002, 29). "Sel-sufficiency of municipalities in 1983 without observing theoretical foundations ruling the financial relations of the government and municipalities that remained for many years led to critical conditions" (Najarjan 1998, 2). Therefore, lack of continuous income sources (at

least for covering permanent costs) would disturb the financial and budget planning of municipalities so that the current income source cannot cover the rising costs of municipalities in coming years (Ghaderi 2005, 23). "Therefore, municipalities should enhance the decision-making process to implement active strategies in dealing with the changing conditions. In some developed countries, municipalities sometimes use governmental aid to manage cities, so that they face many problems without having the funds provided by the central government" (Study and planning of Tehran 1991, 85). Since the stable income sources have a low contribution in municipalities' finance, the income of municipalities should include stable, regular, and receivable sources (Aliabadi 2000, 8).

The lack of clear guidelines in Islamic architecture was another factor showing the patterns of new construction leading to confusion among designers and architects. This issue made construction far from the traditional and Iranian architecture.

Table 2. Findings in the Frame of Factors Affecting the Architecture of Houses Constructed during Pahlavi I and II

Examining the Factors Affecting the Architecture of Houses Constructed during the Pahlavi I and II Periods			
	Criteria	Index	Results
Modernization	Consumer Society	Immigration to the capital	- Rapid building of houses for the middle class of society - Leaving villages and small cities
	Converting Tradition to Modernization	The changing lifestyle of people and the weakened situation of traditional elites	- Disconnection of traditional architectural pattern - Urban planning based on the European cities

Examining the Factors Affecting the Architecture of Houses Constructed during the Pahlavi I and II Periods				
	Criteria	Index	Results	
Economic Structure Changes	Governmentalization	The advent of the industrial economy	Luxury life	
		Formation of economic firms power of the governmental economy	Converting housing to a commercial product The disappearance of private sectors and the stronger economy of merchants	
Modernization of Urban Structure	Advent of Modernity	Newly emerged spaces	Collective spaces, cinema, and squares, and removal of the private realm	
		Bureaucratic nature of architecture and house construction	Urban management institutions coming into power	
		The advent of a new class and the lack of unity in the community	A complicated combination of European symbols and new street designs and house building in apartment forms	

6.2. Introduction to Samples

One of the most critical limitations in case studies was the lack of access to information on the historical period of Tehran and the destruction of residential apartments in the old fabrics. This inaccessibility has been imposed by the owners or organizations for various reasons so that the researcher cannot do anything in this case. Therefore, this limitation made the authors rely on the historical maps available in

the journals and other references despite their low qualities. Following case studies have been introduced: Malek Aslani, Firooz, Ali Akbar Siasi, Khosravai, and Panahi Villas from Pahlavi I period and Mohammad Ali Sepanloo, Najaf Darya Bandari, Akhavan Sales, Farmanieh, and Latif Abolghasemi Houses from Pahlavi II period. General and architectural features of case studies have been briefly analyzed in Tables 1 and 2.

Table 3. Specifications of Case Studies

Houses of Pahlavi II	Houses of Pahlavi I				
	Malek Aslani Villa	Firooz Villa	Ali Akbar Siasi Villa	Khosravai Villa	Panahi Villa
Highlighted Walls Between Spaces and Diminishing Opening	The Courtyard Emphasized the Architecture of Qajar	Space Division	Two Asymmetric Floors	Lack of Openings on the West and East Sides	Extroverted
European Pattern	Extroversion	Rectangle Plan	Rectangle Plan	Extroversion	Rectangular
House Spaces Around a Hall or Sitting Room in the Central Middle	Emphasis on the Continuous Porches	Simple Design	Stone-Made Circular Columns	Asymmetry	Opening Towards Outside
Fewer Number of Decorations	Lack of Numerous Decorations or Ornaments Inside the House	Height From The Floor	Semicircular Protrusions in the Façade	Height from the Floor with Stairs	Curved Terraces
Monotone Facades	Stone-Made Columns	Continuous Porches	Persian Garden Design	Following the Le Corbusier's Five Principles	Different Uses of Each Floor
Downsized Areas	Kushk (Palace) Design	Opening Spaces	Increasing Windows	Cylindrical Staircase	Column in Central Terrace
The Appearance of Alleys or Residential Districts Since the 1960s then	Terrace	Courtyard	Kushk Design	Tall Stone-Made Columns	Height from Floor
Removal of Ornaments From the Façade and Indoor Space of the House	Two-Sided Staircase	Two-Sided Staircase	Rooms Designed Around the Corridor	Opening	Increasing Windows
The Tendency Towards Le Corbusier's Theories about Free Plan	Free Floor	Tall Stone-Made Columns	Two-Sided Staircase	Emphasis on the Relationship with Outside	Using Awning

Table 4. Changes in Plans during Three Pahlavi I, Pahlavi II, and Post-Revolution Periods

Period	Plan Changes
Pahlavi I	The plans' pattern was similar to the Qajar era in the early years of the Pahlavi era; Porch plan with a surface different from the floor and having staircase from one, two, or three sides Wooden, stone-made or polyhedral columns, roofed porch in a simple form, three-room, five-room, and hall designs, interconnected rooms, Sedari and Panjdari (a kind of Persian plans for rooms), columns, and capital
Pahlavi II	Spaces are designed around a central hall or corridor, height from floor, increasing interior walls, removing symmetry, obeying Le Corbusier's five principles, rectangular plans, free façades, diminished hierarchy, public ground floor and upper private floors
Post-Revolution	Deleting interior walls, removing in-between spaces, removing the courtyard, deleting the restroom from outside space and designing it inside the house, relocating the kitchen to public space or next to the entrance gate or bedroom, and removal or privacy and hierarchy

Table 5. Changes in Government, People, and Architects during Three Pahlavi I, Pahlavi II, and Post-Revolution Periods Regarding Pattern Evolutions

The Role of Government, and People during three Periods (as the Heads of Physical Changes in Housing Patterns)			
	Pahlavi I	Pahlavi II	Post-Revolution
Governments	Emphasis on modernization	Emphasis on the construction speed and higher immigration to Tehran	- Increasing the value of properties - Increasing urbanization
	Imitating Europe and the neoclassic style of Germany	Solving the problem of the expensive price of land emphasizing the inexpensive houses for employees	- Encouraging Islamic architecture style - Diversity in the opinions and disagreement between experts to overcome the housing issue due to a single executor
People	Depending on and belonging to the tradition	Employee community and leading towards a consumer society Converting traditional culture to a culture adopted from Europe	- Society under the severe influence of media - Society's tendency towards buying a house - Increasing trend of construction of buildings and selling them
	Relationship with European and European architects, especially German architects	Following the modern principles in construction Design of towns (neighborhood blocks) for the middle class of society	- Without any specific orientation - Without orientation
Architects			

7. CONCLUSION

The new housing types have appeared since the 1960s then, which do not provide the spatial potentials of previous houses (Mohajer 2017, 17). The major issues that have changed the patterns of houses include: 1. Lack of an original attitude based on the identity and culture of each area (this factor is strongly represented in the city and new towns), 2. Quantitative and economic attitude towards the dormitory houses designed in the towns and cities for immigrants entering megacities, 3. Political relationships with Germany during the Pahlavi I period and the entrance of foreign architects to Iran,

as well as the close relationships with the Europe during Pahlavi II era when educated architects from overseas, came to Iran and modernist architecture was introduced and led to a change in Iranian introverted architect, 4. Higher dependence of municipality on the government (municipality acts as a powerful political place and creation of new economic firms), 5. Urban management as a powerful tool regarding political, cultural, and social aspects (after this organization came to power became the executor of enacted laws leading to new styles and patterns due to new rules, street designs, and building apartments), and 6. The appearance of an industrial economy and economic development in the life of people (lifestyle

change and disappearance of traditional architectural patterns after following European architecture). In general, it can be stated that Iranian architecture tradition, which is based on the values of Iranian culture and adopted from the Islamic worldview and rules is forgotten although this architecture is not in

conflict with modernization. Some important topics, such as privacy, introversion, justice, aesthetics and beauty, and private space that are prominent features of Iranian architecture become meaningless due to the changed attitudes of the modernity-dependent society.

ACKNOWLEDGMENTS

This article wasn't supported by any financial or spiritual sponsors.

CONFLICT OF INTEREST

The authors have no conflicts of interest to declare.

MORAL APPROVAL

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

PARTICIPATION PERCENTAGE

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

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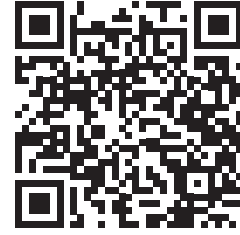
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HOW TO CITE THIS ARTICLE

Ahmandnezhad, Marzieh Sadat, Cyrus Bavar, and Neda Ziabakhsh. 2024. Principles of Evolutions in the Pattern of Tehran Houses; Pahlavi I, Pahlavi II, and Post-Revolution Periods. *Armanshahr Architecture & Urban Development Journal* 16(45): 69-81.

DOI: 10.22034/AAUD.2023.361773.2715

URL: https://www.armanshahrjournal.com/article_180698.html

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