Open Access

Urban Urban Ecology Researches

Vol. 17(3), (Series 44): 145-166

Doi:10.30473/grup.2025.72535.2886

E-ISSN: 2538-3949 P-ISSN: 2538-3930

ORIGINAL ARTICLE

Evolution of Semi-Open Space Types in the Historical Houses of Qazvin, Study Case: Safavid, Qajar, Qajar-Pahlavi and Pahlavi Periods

Hamed Hayaty[1], Niki Nikkhahan[2]*

1. Assistant Professor, Department of Architecture, Qom. Qom- Iran.
2. Ph.D Student, Department of Architecture, Ahvaz Branch, Islamic Azad University, Ahvaz, Iran.

***Correspondence**
Niki Nikkhahan
E-mail:
Nikinikkhahan@yahoo.com

Receive Date: 19/Oct/2024
Revise Date: 12/Aug/2025
Accept Date: 28/Sep/2025

How to cite
Hayaty, H., Nikkhahan, N. (2026). Evolution of Semi-Open Space Types in the Historical Houses of Qazvin, Study Case: Safavid, Qajar, Qajar-Pahlavi and Pahlavi Periods. *Urban Ecology Researche*s, 17(3), 145-166.

EXTENDED A B S T R A C T

Introduction

Semi open space is defined by a specific degree of material enclosure and possesses distinctive characteristics of its own. Compared with open and closed spaces, it demonstrates greater formal and functional diversity. In traditional Iranian architecture, particularly in historic houses, this element has assumed varied and sometimes distinctly different roles across periods. Semi open spaces typically function as intermediate elements: they establish spatial hierarchy, regulate the relationship between interior and exterior, provide a setting for collective behaviours, and play a significant role in climatic adaptation. In a city such as Qazvin, which has a cold and relatively dry climate, this climatic role becomes even more pronounced, as semi-open spaces can simultaneously protect against cold and wind while allowing access to natural light, ventilation and visual connection with the courtyard. These spaces in effect created an intermediate layer between the fully private rooms and the more public courtyard, enabling residents to choose the desired level of privacy and openness according to season, time of day and type of activity.

Despite the importance of these spaces and the considerable body of research conducted in cities such as Isfahan, Yazd, Naein, Kashan and Tabriz, the evolutionary trajectory and precise typology of semi open spaces in the historic houses of Qazvin during the Qajar, Qajar–Pahlavi and Pahlavi periods have received comparatively little attention. Most existing studies have either focused on general aspects of residential architecture or limited themselves to examining a small number of examples from a single period, and few have undertaken a comparative analysis across three successive periods. The present study addresses precisely this gap. It seeks to identify the architectural characteristics and spatial proportions of these spaces and to analyse formal, functional and behavioural transformations across the three historical periods. The primary aim is to recognise both the stable and the changing patterns of semi-open spaces and to understand how climatic, cultural, social and economic factors have influenced their formation and evolution. The central research question is what types of semi open spaces existed in the historic houses of Qazvin and how they changed in the transition from the Qajar to the Pahlavi period.

Mothodology

The research employs a combined interpretive-historical and descriptive analytical approach.

Data were collected through detailed field observations, library sources, historical documents, existing maps and old photographs. To delimit the scope of the study and ensure reliable results, seventeen historic houses in Qazvin were selected purposefully. These belong to the Qajar period (Aminiha, Ardakani, Asadi, Behrouzi, Zanjanchi, Mofakham, Sa'd al Sultan, Seyed Mahmoud Beheshti, Mohasses, Moini and Yazdi), the Qajar–Pahlavi transitional period (Khatibi and Mortazavi), and the Pahlavi period (Daei, Haj Ramazan, Seyed Hossein Beheshti and Arazi).

Selection criteria included the presence of diverse spatial realms, meaningful contrast with houses of preceding and succeeding periods, historical value and national heritage registration, relatively intact and minimally altered condition, and availability of sufficiently detailed architectural information (plans, photographs and documents). Analyses focused on mass-to-space ratios, formal and locational typology, quantitative dimensions (length, width, area and length to width ratio), movement patterns, types of connection with the courtyard and rooms, orientation relative to the cardinal directions, and the degree of ornamentation. Quantitative data were calculated using accurate plans and field measurements and were then combined with qualitative analysis to provide a more comprehensive picture of the evolutionary trajectory of these spaces. Finally, the findings were presented in comparative tables and spatial patterns so that period by period changes could be clearly observed.

Findings

The results indicate that in the historic houses of Qazvin from the Qajar to the Pahlavi periods, semi-open space constitutes on average approximately 27–29 per cent of the total built area (closed space approximately 51 per cent and open space approximately 20 per cent). Despite this relatively modest proportion, three principal types with distinct roles can be identified:

- Longitudinal elongated iwan: primarily a connecting space between rooms and the courtyard. These iwans are usually located on the main façade or on the summer and winter living sides and contribute to the creation of spatial hierarchy and the control of views and access. Their depth and length vary according to the scale of the house and functional requirements and are often accompanied by columns or load-bearing piers.
- Ivancheh: a small transitional space between interior and exterior that performs mainly a mediating, climatic and connective function. These spaces are typically placed in front of one or two rooms and have more limited dimensions. In later periods their number and significance declined, and in some Pahlavi examples they were almost eliminated.
- Talar (deep iwan): a multifunctional and relatively elaborate space that accommodates a wide range of collective activities, reception and rest, and is frequently associated with a "shahneshin". Talars usually have greater depth, richer ornamentation (stucco, mirror-work or painting) and a special position within the spatial organisation of the house.

Quantitative and qualitative examinations reveal that the dimensions, number, location, geometry and degree of ornamentation of these spaces changed across the periods. In the Qajar period, semi-open spaces are generally richer, more varied and more elaborately decorated. The length to width ratio in iwans and talars is often more elongated, and they maintain a stronger connection with the courtyard. In the Qajar–Pahlavi and especially the Pahlavi periods, certain types (such as the ivancheh) appear less frequently or in simpler forms, patterns of access undergo modification, and in some examples the semi-open space is reduced to a minimum or replaced by more enclosed spaces and modern terraces. Nevertheless, the principal functions of these spaces connective, functional and climatic remain consistent across all three periods. An interesting observation is that semi open spaces are distributed across virtually all orientations of the house, with no single façade exercising absolute dominance, although the northern and southern façades gained greater importance due to climatic conditions, and in many examples the main iwan is located on one of these two sides.

Discussion and Conclusion

Semi-open spaces in the historic houses of Qazvin combined connective, functional behavioural and climatic roles. They enriched the geometric composition of the building, enhanced the quality of the courtyard, introduced a degree of permeability into the enclosing walls, and enabled the gradual regulation of privacy and publicness. In practice, these spaces allowed residents to carry out different activities in varying layers of privacy while remaining connected to the natural outdoor environment. The observed transformations were shaped primarily by the cold climatic conditions of Qazvin, the social and economic status of the owners, everyday patterns of dwelling, functional needs and the aesthetic preferences of the architects. In the Qajar period, greater spatial and decorative richness corresponds with the social and economic standing of the owners, whereas in the Pahlavi period a tendency towards simplicity, reduced spatial depth and altered connective patterns can be observed under the influence of cultural and contemporary architectural changes.

The findings of this study align with comparable research conducted in other historic Iranian cities and demonstrate that, despite quantitative and qualitative changes from the Safavid–Qajar period through to the Pahlavi era, semi-open space remained a key organising element in Iranian domestic architecture. These spaces not only performed climatic and connective functions but also served as a setting for social interactions and the preservation of architectural identity.

On the basis of these results, it is recommended that contemporary housing design draw upon the three typological patterns of the longitudinal iwan, the ivancheh and the talar, taking into account the cold climate, cultural requirements (privacy and collective space) and the behavioural patterns of residents. Attention to spatial proportions, appropriate orientation, controlled depth, the possibility of natural ventilation and the creation of gradual layers of privacy can contribute to enhanced spatial quality and functional efficiency. The present research may serve as a starting point for further comparative studies, the examination of a wider range of examples in other cold-climate cities, and the practical application of these principles in the revival and design of contemporary semi open spaces.

K E Y W O R D S

Typology, Semi-Open Space, Historical Houses, Qazvin.

Copyright © 2026, by the author(s). Published by Payame Noor University, Tehran, Iran.
This is an open access article under the CC BY 4.0 license (http://creativecommons.org/licenses/by/4.0/).

فصلنامه علمی

پژوهش‌های بوم‌شناسی شهری

سال ۱۷، شماره ۳، پیاپی ۴۴، فصل پاییز (۱۶۶-۱۴۵)

Doi: 10.30473/grup.2025.72535.2886

E-ISSN: 2538-3949 P-ISSN: 2538-3930

«مقاله پژوهشی»

سیر تحول گونه‌های فضای نیمه‌باز در خانه‌های تاریخی قزوین مطالعه موردی: دوره‌های قاجار، قاجار ـ پهلوی و پهلوی

حامد حیاتی[۱]، نیکی نیک‌خواهان[۲*]

۱. استادیار، گروه معماری، دانشکده فنی و مهندسی، دانشگاه قم، قم- ایران

۲. دانشجوی دکتری، گروه معماری، واحد اهواز، دانشگاه آزاد اسلامی، اهواز، ایران

***نویسنده مسئول:** نیکی نیک‌خواهان

رایانامه: Nikinikkhahan@yahoo.com

تاریخ دریافت: ۲۸ /۱۴۰۳/۰۷

تاریخ بازنگری: ۱۴۰۴/۰۵/۲۱

تاریخ پذیرش: ۱۴۰۴/۰۷/۰۶

استناد به این مقاله:

حیاتی، حامد و نیک‌خواهان، نیکی (۱۴۰۵). بررسی سیر تحول گونه‌های فضای نیمه‌باز در خانه‌های تاریخی قزوین مطالعه موردی: دوره‌های قاجار، قاجار ـ پهلوی و پهلوی. *پژوهش‌های بوم‌شناسی شهری*، ۱۷(۳)، ۱۶۶-۱۴۵.

چکیده

فضای نیمه‌باز از طریق میزان معینی از حصارهای مادی تعریف می‌گردد، ماهیت و مختصات ویژه‌ای داشته و عرصه‌ای جهت پاسخگویی به برخی از نیازهای انسان محسوب می‌شود. این فضا نسبت به دو گونه دیگر (فضای باز و فضای بسته) از تنوع کالبدی و کاربردی بیش‌تری برخوردار است به نحوی که این عنصر معماری سنتی ایران در خانه‌های تاریخی قزوین در هر دوره به اشکال گوناگون و بعضاً متفاوتی ایفای نقش کرده است. این پژوهش به بررسی سیر تحول گونه‌های فضای نیمه‌باز در خانه‌های تاریخی قزوین می‌پردازد و سعی در شناسایی ویژگی‌ها و شاخص‌های معماری این فضاها و بررسی نسبت فضایی هر یک از آنها با دیگر فضاهای مرتبط در هر دوره داشته استروش تحقیق در این پژوهش ترکیبی از روش تفسیری ـ تاریخی و توصیفی ـ تحلیلی است که گردآوری اطلاعات آن به صورت میدانی و اسنادی است. در واقع این تحقیق به بازخوانی سیر تحول مفهوم فضای نیمه‌باز در خانه‌های تاریخی شهر قزوین و بررسی نقش آنها از منظر کالبدی، کارکردی و رفتاری می‌پردازد. بدین طریق، محقق در ابتدا با شناخت فضاهای نیمه‌باز و مطالعه رفتارها و فعالیت‌های جاری در آن‌ها، ابعاد متفاوت این‌گونه فضایی را مورد مطالعه قرار داده و سپس مؤلفه‌های شاخص در شکل‌گیری این عنصر را مورد تبیین قرار می‌دهد. در گام بعدی با معرفی نمونه‌های هدفمند در خانه‌های تاریخی قزوین از دوره‌های «قاجار، قاجار ـ پهلوی و پهلوی» به گونه‌شناسی کلی و بررسی سیر تحول الگوهای به کار گرفته شده در فضاهای نیمه‌باز خانه‌های تاریخی این شهر از لحاظ تحدید دامنه زمانی و مکانی پرداخته و در آخر با استخراج گونه‌های متفاوت فضاهای نیمه‌باز در خانه‌های مورد مطالعه به دسته‌بندی و تحلیل داده‌ها و چگونگی تغییر و تحول آنها در هر دوره تاریخی می‌پردازد.

واژه‌های کلیدی

گونه‌شناسی، فضای نیمه‌باز، خانه‌های تاریخی، قزوین.

حق انتشار این مستند، متعلق به نویسندگان آن است. © ۱۴۰۵ ناشر این مقاله، دانشگاه پیام نور است.

این مقاله تحت گواهی زیر منتشرشده و هر نوع استفاده غیرتجاری از آن مشروط بر استناد صحیح به مقاله و با رعایت شرایط مندرج در آدرس زیر مجاز است.

This is an open access article under the CC BY (http://creativecommons.org/licenses/by/4.0/).