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Vernacular Domed Harran Houses In The Context Of Kenneth Frampton's Critical Regionalism Approach

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Abstract

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The mechanisation that emerged with the Industrial Revolution led to changes in the production methods of building materials. Within this changing process, regional elements were abandoned, and culturally, socially, and economically specific local elements were disregarded, leading to the production of characterless buildings with similar materials and plan typologies. In this context, Kenneth Frampton introduced the concept of critical regionalism as a response to the standardisation of “modernism” and the approaches of “regionalism” that disregarded technological elements. According to Frampton's critical regionalism approach, he defined a hybrid system in the construction sector that emphasises the necessity of preserving local tectonic, climatic, and regional elements while incorporating technological developments into the process. The study examines the traditional domed Harran Houses in Şanlıurfa and evaluates them using qualitative research methods based on Frampton's concept of critical regionalism. The original value of the study is demonstrated by showing that the traditional design parameters and material utilization of Harran houses are not merely design inputs of the past, but concrete data that shed light on contemporary sustainable design through theories of critical regionalism. The study concludes that the Harran houses, by preserving local architectural elements, provide important references for contemporary architecture.

Keywords: Critical Regionalism, Kenneth Frampton, Traditional Harran Houses, Tectonic Elements, Sustainable Design.

1. Introduction

Climate change, characterized by extreme weather events with varying effects across regions, is considered one of the major environmental problems of the 21st century. Urban areas and daily life practices in cities have a circular effect on climate change. In other words, the consumption of fossil fuels and the underuse of renewable energy are significant consequences of climate change. When comparing the factors causing climate change on a sectoral scale, it has been suggested that carbon emissions from the construction sector account for approximately one-third of global carbon emissions. In other words, according to a 2022 report by the Global Alliance for Buildings and Construction (GLOBALABC), 37% of global carbon emissions originated in the construction sector. It has been determined that materials such as steel, concrete, and cement are significant contributors to carbon emissions, particularly during the building production and construction phases and throughout the building lifecycle (GLOBALABC, 2022). The most important factor hindering energy use in the construction sector is rapid urbanization. In other words, according to a 2024 United Nations (UN) report, urbanization is accelerating worldwide, and 57.3% of people live in cities. Furthermore, it has been suggested that the urbanization rate is 79.9% in developed economies and 52.8% in developing countries (UNCTAD, 2024). Within this framework, the daily increase in the urban population has accelerated the need for housing, and consequently, construction has been reduced to a scale that addresses only the “shelter” need, as outlined in Maslow's hierarchy of needs. In other words, the era of ‘modernism’ began with building production patterns that are placeless, lacking identity, and characterized by a uniform plan typology, encompassing the mechanization and rapid production culture that has also affected the construction sector (Fathy, 2010). Modernism, which originated in Europe in the twentieth century and was developed in the American Midwest, has had an impact on architecture. The use of open plans, arcades and columns, large transparent surfaces, and brutalist facades in the buildings of master architects such as Le Corbusier, Mies van der Rohe, and Walter Gropius represented a revolutionary step in building design (Ugah et al., 2024; Sharbaji, 2025). While aesthetically pleasing, these design elements have, over time, created problems with energy efficiency and thermal comfort that are incompatible with the European climate (Karadağ and Kırıcı, 2021). In other words, standardizing production patterns in the construction sector with a single formula or design component contradicts the integrated design principle of sustainable design. Within this framework, the critical regionalism approach has been developed, particularly to prevent the homogenization of building designs and to neutralize the negative effects of the Industrial Revolution. The concept of critical regionalism, first introduced by Alexander Tzonis and Liane Lefaivre in the early 1980s, was later comprehensively explained and detailed by architectural historian and critic Kenneth Frampton in

his 1983 work, "Towards a Critical Regionalism: Six Points for Resistance Architecture" (Steyn, 2015; Bahga and Raheja, 2018). It distances itself from both the "placelessness" of postmodernism and modernism, as well as from historicist ideas. In other words, it does not limit design within the duality of form or function based on concrete data. It speaks of the importance of establishing a connection between the past and the present (Avermaete et al., 2019; Kar, 2021). Critical regionalism emphasizes the importance of a design approach that reconciles the conflict between the local and the contemporary and combines the "spirit of the place" with contemporary construction techniques. According to Frampton, critical regionalism is defined as "a culture's unique identity, place-making methods, and architectural (tectonic) strategies" (Frampton, 1983). In other words, Frampton, citing the writings of architect Harwell H. Harris (1903-1990), emphasizes the importance of contemporary approaches and a liberating regionalism that includes the outsider in design, rather than one that excludes them. (Frampton, 1983; Lim et al., 2025). Within this framework, the study is based on Kenneth Frampton's 1983 work, 'Six Points for an Architecture of Resistance', and his 1987 work, 'Ten Points of an Architecture of Regionalism: A Provisional Polemic', and the Harran Region in Şanlıurfa was selected as the field study area. This study examines the traditional domed houses in the Harran district within the framework of Frampton's critical regionalism parameters, including climate, light, topography, tectonic form, the relationship between scenography and architecture, and sensory architecture. Using qualitative research methods, the study reinterprets the parameters presented by Kenneth Frampton's Critical Regionalism theory through on-site observations and photographs, specifically focusing on the Harran domed houses. The study concludes that the use of adobe material and conical roofs in Harran domed houses provides both high thermal comfort and natural ventilation. Furthermore, unlike the scenographic architecture criticized by Frampton, the use of tectonic elements allows for the direct display of structures on the terrain. In addition, fieldwork and observations have revealed that Harran's domed houses not only appeal to the senses but also represent unique examples in which sensory architecture, such as light and shadow and material texture, is prominent. Finally, the preservation of cultural values in the region from the past to the present indicates that the spirit or context of the place has been preserved. In this context, critical regionalism, a manifesto against modernism, has helped transform the Harran Dome Houses, which are on the UNESCO World Heritage Tentative List, from mere residences into tangible "memory spaces" to be passed on to future generations. The study's unique value lies in its evaluation of Harran dome houses within the framework of Frampton's critical regionalism theory, bringing together a conceptual approach under a single umbrella encompassing sustainability and vernacular heritage, and demonstrating how traditional architectural knowledge can contribute to contemporary climate-responsive design approaches.

1.1. Conceptual Framework

The concept of critical regionalism, which evolved from Louis Mumford's 1947 concept of regionalism, was discussed and developed by Kenneth Frampton in his work "Towards a Critical Regionalism: Six Points for an Architecture of Resistance". Frampton specifically created this concept to balance the tension between world culture and national culture. To resolve this tension through paradox, Frampton avoids romanticizing the old and highlighting the new, and he does not excessively glorify the new. In other words, he presents a balanced style by blending the architectural and historical languages of the new and the old (Masridin and Ismail, 2022; Zheng et al., 2023). According to Frampton, critical regionalism is outlined in his 1987 work, "Ten Points on a Regionalist Architecture: A Temporary Polemic and Towards a Critical Regionalism: Six Points for a Resistance Architecture" (Frampton, 1983; 1987), as follows:

- He argues that architecture is not merely the result of a series of technical knowledge and experiences, but also a spatial fabric reflecting social memory and cultural myths. He does not adopt an approach that fully accepts the parameters of local or vernacular architecture. In other words, rather than rejecting the traditional approach, he proposes a balanced use of modern technology that responds to the era's needs, without completely abandoning it. For Frampton, tectonic reality does not merely express a technical or structural framework. Frampton refers to Stanford Anderson's definition of tectonics. He defines tectonics not merely as a series of construction activities, but as the transformation of construction into an art form. In other words, according to Frampton, it is described as "the presentation of tectonic, structural poetics. According to Kenneth Frampton, parameters such as topography, climate, and light constitute important design inputs. He particularly emphasizes that the relationship between the built environment and the natural context, as well as the way light is utilized, varies depending on climate and topography. Kenneth Frampton emphasizes the importance of architecture engaging in dialogue with place, comparing the leveling of irregular topography by bulldozers to a representation of placelessness, while interpreting the terracing of the same terrain as a reference to the dialectical relationship established with nature (Fardpour, 2013).

Tactile emphasizes that architecture is not merely about visual photography, but about experiencing materials through different senses, such as their texture, warmth, or coldness. It highlights the crucial role of tactile perception in making form understandable. Architecture is not just about optical nerves; it's about a holistic spatial experience, a complex and integrated sensory experience that interacts with ambient temperature, acoustics, and airflow. Frampton describes the Saynatsalo Town Hall, designed by Alvar Aalto, through the lens of tactile experience. Scenography in architecture is not a phenomenon accepted for its synthetic nature among forms of representation. Scenography refers to an architectural design process that emphasizes tectonic elements such as nature, climate, and culture. In other words, it stresses that it should not be limited to superficial or formal boundaries, like visual stage design. The human need for place is a fundamental instinctive drive. Heidegger (1971) explains the transformation of space into place through the inclusion of culture within it. The concept of "pure space" is currently defined as areas that do not attach importance to context and place, and do not carry the spirit of the place. Norwegian architect Christian Norberg-Schulz (1997) uses the ancient Roman concept of

"genius loci" (spirit of the place) to describe the process by which a space transforms into a place. In other words, tectonic elements such as materials, environmental inputs, climate, and topography are site-specific parameters used to distinguish them from other spaces. In this way, spaces that stand out for their differences are identified and transformed into places through these inputs (Caltekin, 2019).

2. Materials and Methods

This study examines climate sensitivity, light, topography, tectonic structure, sensory experience, and scenographic criteria, as outlined in Kenneth Frampton's critical regionalism theory published in 1983 and 1987, within the context of traditional Harran dome houses through both on-site observation and fieldwork. A qualitative research method was employed, and the theory-based framework was supported by fieldwork. Literature reviews on the concept of critical regionalism were conducted, and Frampton's criteria were evaluated through on-site observation and spatial analysis.

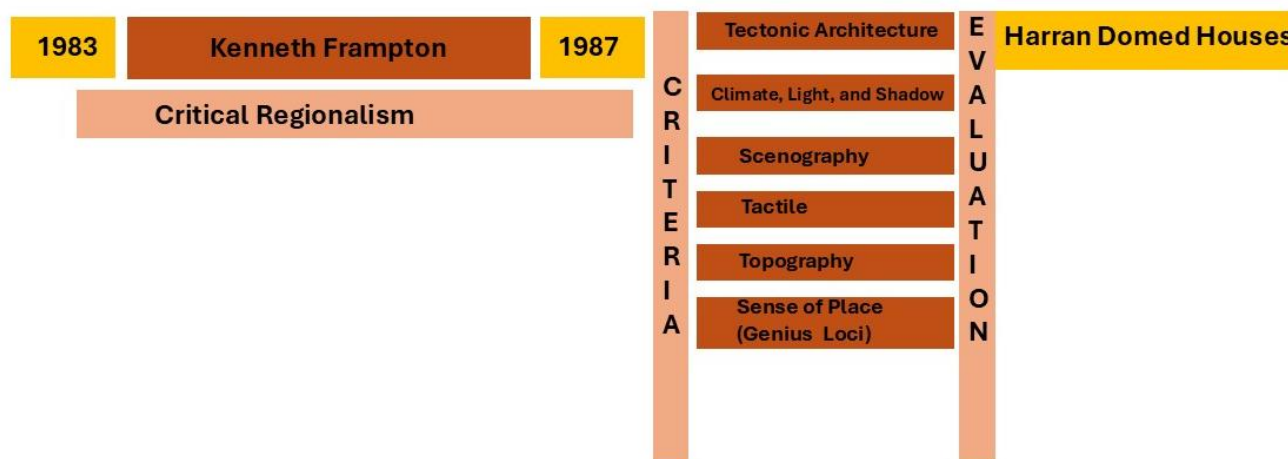


Figure 1. Methodological Framework of the Study.

The first step of the study involved a literature review to establish a conceptual framework. Critical regionalism and its accompanying architectural tectonic elements were examined using academic databases, with a focus on adobe-based architectural structures. Climate sensitivity, light, climate, sensory architecture, scenography, and topographical elements were selected as Frampton's fundamental parameters and evaluation criteria for field study. The second step involved fieldwork at the registered archaeological and urban site in the Harran district of Şanlıurfa. The spatial configuration and courtyard typologies of the Harran dome house, as well as structural details such as domes and materials, were examined. The effect of light entering through the upper dome opening and the structural patterns it creates were photographically documented. In particular, the passive design and structural characteristics of the local adobe material, constructed using the overlapping conical brick technique, were evaluated through on-site observations. All empirical observations were supported by data from the Şanlıurfa Regional Board for the Protection of Cultural Heritage Archive. In the third phase of the study, the qualitative data obtained from the fieldwork was evaluated using thematic and spatial analyses. The observed physical characteristics of the traditional Harran dome houses were assessed using the criteria of critical regionalism, whose theoretical and conceptual framework was presented by Frampton in 1983 and 1987. The methodological scheme of the study and the criteria used for comparison with Frampton's are shown in Figure 1.

2.1. Case Study: Conical Domed Houses of Harran

Şanlıurfa is a historical city located in the Southeastern Anatolia region of Turkey, situated on the Balıklıgöl Plateau. The city is considered one of the best examples of open-air museology, with its underground archaeological sites and its registered cultural heritage values on the surface. Numerous cultural heritage values can be found in both the city center and the surrounding districts. According to the Köppen-Geiger climate classification, Şanlıurfa has a Mediterranean climate (Csa), characterized by hot, dry summers and mild, relatively rainy winters. In this context, the hottest month has been determined to be July. When the city's annual rainfall is examined, December, January, and February are the months with the most rainfall (MGM, 2025; Kuloglu Yuksel vd., 2025). In this context, both the inadequacy of the rainfall regime and, especially, the fact that the summer period lasts longer than the winter period are major sources of stress for the cultural heritage values located in the region. In other words, climate change scenarios have indicated that the Mediterranean basin, including the region, will face drought in the future (IPCC, 2014). Structures made of adobe are currently threatened by climate change. The Harran region, which will be examined in this study, was declared an archaeological and urban site in 1979. While 960 domes were recorded at the time of their registration, this number has decreased to approximately 140 today (Kuloğlu Yüksel, 2025). In 2000, the Harran dome houses were included in the UNESCO World Heritage Tentative List. Another important development in the region is the preparation of the "Harran Area Management Plan" in 2014 and the official approval of the "Harran Walls Conservation Development Plan (KAIP)" in 2020 (Şanlıurfa Metropolitan Municipality, 2025).

When the traditional Harran streetscape is examined, it consists of organic surfaces of conical domed structures. To ensure the continuity of feudalism and patriarchal culture, building blocks or parceling patterns are placed close together

or adjacent to one another. The fact that livelihoods are largely focused on animal husbandry and agriculture, along with the area's location in a hot-dry climate zone, has brought open-space design to the forefront in the spatial hierarchy. In other words, courtyard plan typologies have been created to minimize the negative effects of solar radiation throughout the year. I-, L-, and U-type courtyard forms have been created by clustering small square areas. Traditional Harran houses consist of square-plan modular forms. In this context, the dome drum has been developed using pendentives or lintels to span the circular opening. The domes are created using the corbeling technique with approximately 700-1000 bricks, totaling 5 meters in height, forming conical forms (Ernst vd., 2025; Kuloğlu Yüksel, 2025).



Figure 2. Courtyard plan form (a) and aerial views of the Harran conical domed houses (Sanliurfa Regional Council for the Conservation Cultural Heritage of Ministry of Culture and Tourism Archive, 2026).

In Harran dome houses, passive design strategies have been incorporated into the design inputs on a significant scale. In other words, in Şanlıurfa, a city in a hot, dry climate zone, summer months are characterized by extreme, difficult-to-control increases in air temperature. In this context, the upper part of the conical dome, created using the overlapping technique in traditional Harran houses, is left open to provide ventilation and natural light. In this way, hot air rises and leaves the space in summer, ensuring natural thermal comfort in every season through passive design. In addition to all this, the use of local adobe material in 40-50 cm-thick layers in the construction of traditional structures has led to the incorporation of energy-efficient thermal masses within the framework of passive design criteria. To sustainably provide bioclimatic comfort and cross-ventilation at a spatial scale, openings approximately 30x40 cm in size were added to the main load-bearing walls of the buildings at different heights, thereby facilitating passive airflow through the openings (Mutti, 2014; Ogut et al. 2021). At the same time, the easy availability of adobe material in the region, its ability to maintain optimal air transfer in every season, and its lower heat transfer coefficient compared to other materials have resulted in positive effects on sustainable environmental production by using local material throughout the building's life cycle (Özdemir et al., 2025). Adobe is considered a fragile material when subjected to climatic effects. Adobe is considered a fragile material susceptible to climatic effects (Gülmüş et al., 2026). In this context, environmental factors such as rain and wind significantly affect the material's physical structure. Therefore, to protect the domes of these important cultural heritage sites and pass them on to future generations, they are plastered with adobe plaster every year (Kuloğlu Yüksel, 2025).



Figure 3. Corbelled Conical Dome Structure and Wall of Harran Domed Houses (Akalp, 2025).

3. Evaluation of Dommed Harran Houses within the Framework of Critical Regionalism

This study considers traditional Harran dome houses against the criteria presented in Kenneth Frampton's 1983 and 1987 critical regionalism articles. The conceptual framework is assessed through on-site observations, photographs, and qualitative research data at the spatial scale. Frampton emphasizes that spatial borders are defined through architectural design and elements. Furthermore, he argues that physical boundaries are not only explained by spatial forms and building scale, but also by the combination of cultural values and dynamics that reflect the "spirit of the place." In this context, the location of traditional Harran houses on the flat plain of Harran and their construction of adobe and stone demonstrate a continuity from the past to the future. Moreover, the maintenance of local people's cultural values from the past within the same space is presented as the most accurate evidence of a memory space, as the structures shape, define, and inform the boundaries and environmental elements. In other words, each conical house constitutes a significant part in integrating modular structures with the natural environment. In traditional Harran houses, the boundaries created by courtyard forms express different meanings on both cultural and physical scales. Courtyard boundaries are among the important elements of the inward-facing space. Although they appear as a repetition of facade similarities within the historical fabric and a kind of order of natural topographical elements in the built environment, they function as important physical boundaries and thresholds within the interior space, depending on localities and cultures.



Figure 4. Repair practices observed in Harran's traditional domed houses (Sanliurfa Regional Council for the Conservation Cultural Heritage of Ministry of Culture and Tourism Archive, 2026) .

The courtyard form not only creates physical boundaries. In a hot, dry climate, the courtyard provides shaded areas throughout the year, helping balance the thermal performance of the interior space. In addition to all this, the courtyard plays an important role in natural ventilation. It acts as a filter, allowing hot air from the interior space to pass through. The courtyard also has a significant impact on social life. Shared by multiple families, daily life practices in the courtyard unit, and significant cultural values of the people, such as celebrations and condolences, are reflected in the building forms, where ceremonies are also held. The passive cooling effect is achieved solely through the courtyard unit. The voids at the top of the domed houses, which are characteristic of the region and its identity, help with natural ventilation and the entry of natural light into the space. In this way, light is not only used as a physical environmental element but also breaks the design's reliance on optimal sensory reactions, as stated by Frampton. Since the region is far from stone quarries, the building materials were chosen from natural earth materials. In particular, the fertile soil and climate of the Harran Plain have highlighted adobe materials, produced from mixtures of clay, soil, straw, and water, leading to a strong connection between the structure and the geography in which it was built. The ease of local production of this material and its construction, carried forward from the past to the present through collective memory, is also a result of the region's traditional production culture, as framed by Frampton's concept of "the spirit of the place" (*genius loci*).



Figure 5. Traditional domed Harran houses and courtyard setting illustrating vernacular architectural characteristics of the settlement.

Adobe material is also an important component of climate-responsive design. Its passive climate-control feature is highlighted by its ability to heat up slowly during the day from solar radiation, retain heat, and release it slowly at night. The brutalist depiction of building materials and traditional construction techniques spotlights the aesthetic elements of tectonic factors, not only as a load-bearing system and also as an impressive structure in harmony with the topography. Sensory experience is not solely a visual act. Frampton discusses the importance of different perceptual experiences in spatial design, including touch, perception of atmosphere, and feeling. In this context, the high thermal retention capacity of adobe material in traditional Harran houses provides a thermal experience by allowing the user to feel temperature variation. The rough texture of the adobe and the presence of materials like straw provide a tactile experience, while the earthy material triggers olfactory memory when it comes into contact with rain. The entry of sunlight through the dome opening at different times and angles provides depth and a spiritual atmosphere to the space. All these effects also bring about a stage effect. In other words, different sensory experiences shape the mystical atmosphere of the space, creating a theatrical effect. In addition to all this, irregularities in rainfall patterns and extreme air temperatures due to future climate change risks will cause physical stress on adobe material, leading to rapid deterioration over time. Therefore, renewing your Adobe material every year is not only a technical maintenance or precaution but also supports critical regionalism by providing a tangible manifestation of collective memory in space. In conclusion, the traditional Harran dome houses are a unique example and a tectonic manifesto of Frampton's critique of modernism, built in Anatolia. In particular, the voids in the apex surfaces of the dome houses are the most important passive design element, providing both lighting and air circulation independent of mechanical systems. In this respect, it offers a sustainable design proposal for future facades that rely on mechanical systems and have a high carbon footprint. In Table 1, Kenneth Frampton's criteria for critical regionalism are evaluated within the framework of the Harran houses.

Table 1: Evaluation of Harran Houses According to Kenneth Frampton's Critical Regionalism Criteria.

Photography	Parameter	Architectural Response According to Frampton
	Climate	The courtyard plan typology and the void effect in the dome provide passive cooling and ventilation.
	Tectonic Architecture	The production of adobe material with traditional construction techniques and the construction of the dome's roof covering with the overlapping technique are integrated with the tectonic element, produced with both structural and aesthetic concerns.
	Scenography	The courtyard light and the conical dome create a theatrical experience. Sensory Experience: The rough texture of the adobe material, the triggering of its earth-derived component by the smell of rain, and the daylight entering the space through the courtyard-dome opening provide a sensory experience.
	Tactile Perceptions	The rough texture of the adobe material, the triggering of its earth-derived component by the smell of rain, and the daylight entering the space through the courtyard-dome opening provide a sensory experience.
	Topography	The close connection of the structure to the geography, its construction in the Harran plain, and the use of similar materials have caused the ground to appear as the ground level in relation to the space.
	Genius Loci (Spirit of the Place)	The continuation of courtyard life culture from generation to generation, particularly in the transmission of collective and spatial memory, has ensured the preservation of Harran's local identity and culture from the past to the present.

4. Conclusions and Recommendations

The climate crisis and the problems it brings have caused significant changes in the construction sector. In recent years, vernacular architecture's design parameters have come to the forefront, and energy efficiency has been achieved through passive systems. However, given that the spatial dynamics of the 21st century are driven by technological developments, there is a strong suspicion that the design criteria of vernacular architecture will lag behind the times. In this context, the critical regionalism theory, which integrates technological developments into traditional design criteria, was developed by Kenneth Frampton. This study focuses on the Harran houses, which are on the UNESCO World Heritage Tentative List. Considered an important example of vernacular architecture in terms of material selection, construction techniques,

building form, and spatial arrangement, the Harran houses are among the settlements where cultural values and spatial memory have been preserved from the past to the present. As a result of the study, Frampton's critical regionalism criteria, formulated within a theoretical framework, have been transformed into a concrete expression of the Harran houses. The harmonious placement of the Harran houses with the topography and the use of adobe material offer a good alternative to the placelessness and loss of identity in modern architecture. The Harran houses demonstrate that architecture is not solely based on optical spatial experience, but is supported by multisensory experiences encompassing touch, smell, and hearing. In Harran houses, where tectonic elements are integrated not only aesthetically but also with the load-bearing systems, the courtyard's spatial organization has been observed to be highly effective in passive cooling. The courtyard has not only served as a physical boundary but has also contributed to the continuity of culture and the transmission of spatial memory from generation to generation. In addition to all these, climate-responsive design inputs of vernacular architecture, such as daylight use, natural ventilation, and spatial hierarchy, demonstrate that traditional architectural approaches can be adapted to contemporary conditions and contribute to sustainable design practices. In particular, the local production methods, material usage, and the involvement of the local population in all processes ensure the social, environmental, and economic parameters of sustainable development. Climate change poses significant risks for cultural heritage structures made of adobe. Therefore, the preservation and documentation of traditional construction techniques are critically important. In addition, the rapid deterioration and disappearance of the domed houses over time demonstrate that disasters such as earthquakes and climate change threaten the continuity of cultural heritage. Conservation efforts should not be limited only to the physical preservation of the structures, but should also include the protection of craftsmanship, handicrafts, traditional construction knowledge, and cultural values. To preserve Harran houses and to ensure that tectonic elements serve as examples for future adobe settlements, the local people's construction practices should be documented. In future studies, energy efficiency can be measured in Harran houses through simulation. To measure energy efficiency and determine material performance at the building scale, thermal comfort can be calculated using the DesignBuilder Simulation program. The obtained data can be measured on-site with I-button sensors and calibrated using the simulation program. In addition, using real climatic data from the city of Şanlıurfa, studies conducted at the topographic and neighborhood-unit scales can evaluate traces of vernacular architecture at the street-texture scale. In this context, this method can also be integrated into structures with similar characteristics at both contextual and structural scales, such as the Italian Trulli houses. Another suggestion is to develop AI-supported proposals for damage detection and conservation. Harran houses, which are particularly important indicators of how the environmentally focused design approach of the Sustainable Development Goals can be addressed within a social framework, can be examined in this context, and different policies can be developed. The modular systems of Harran houses and their courtyard aspect ratios can be used to propose optimal courtyard size forms.

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Conflicts of Interest

The author(s) report no conflicts of interest.

Data Availability Statement

The data used in this study consist of literature sources, field observations, photographs, and field notes related to the Harran domed houses. Supporting materials are available from the author upon reasonable request.

Institutional Review Board Statement

Ethical review and approval were not required for this study, as it did not involve human participants, animals, or sensitive personal data.

CRedit Author Statement

All authors have read and approved the final manuscript.

Reference list

- Akalp, S. (2025). Deterioration risk of earthen heritage sites in hot-dry climate regions under the impact of climate change. *Proceedings of Kerpiç'25 – 13th International Conference on Earthen Architectural Heritage*.
- Avermaete, T., Patteeuw, V., Szacka, L. C., & Teerds, H. (2019). A conversation with Kenneth Frampton. *OASE 103: Critical Regionalism Revisited*, 143–155. <https://oasejournal.nl/wp-content/uploads/2025/05/OASE-103-142-Een-gesprek-met-Kenneth-Frampton.pdf>.
- Bahga, S., & Raheja, G. (2018). An account of critical regionalism in diverse building types in postcolonial Indian architecture. *Frontiers of Architectural Research*, 7(4), 473–496. <https://doi.org/10.1016/j.foar.2018.09.001>.
- Çaltekin, G. (2019). Evaluation of Mardin Mass housing within the context of critical regionalism (Master's thesis, Mimar Sinan Fine Arts University). YÖK National Thesis Center.
- Ernst, F., Akdağ, S., Polat, N., Akaslan, D., Önal, M., & Ekinci, A. (2024). Development of a virtual reality application for the Old Harran School. *International Journal of Engineering and Geosciences*, 9(1), 77–85. <https://doi.org/10.26833/ijeg.1309115>.
- Fardpour, T. (2013). Analysis of Iranian traditional architecture through the lens of Kenneth Frampton's "Critical Regionalism". <https://doi.org/10.3844/ajeassp.2013.205.210>.

- Fathy, H. (2010). *Architecture for the poor: an experiment in rural Egypt*. University of Chicago press.
- Frampton, K. (1983). Towards a critical regionalism: Six points for an architecture of resistance. H. Foster (Ed.), *The anti-aesthetic: Essays on postmodern culture* içinde. Bay Press.
- Frampton, K. (1987). Ten points on an architecture of regionalism: A provisional polemic. *Center*, 3(New Regionalism), 20–27.
- Global Alliance for Buildings and Construction (GlobalABC). (2022). GlobalABC releases 2022 global status report for buildings and construction. <https://globalabc.org/>.
- Gülmüş, S., Alaçam, S., & Güzelci, O. Z. (2026). Harran earthen houses as a precedent for environmental comfort. *Journal of Cultural Heritage Management and Sustainable Development*, 16(4), 1052-1069. <https://doi.org/10.1108/JCHMSD-01-2024-0004>.
- Heidegger, M. (1971). *Poetry, language, thought* (A. Hofstadter, Çev.). Harper & Row.
- Kar, Z. E. (2021). A generative typology for critical regionalism: An urban design perspective (Master's thesis, Middle East Technical University).
- Karadağ, S., & Kırıcı, N. (2021). Tropikal Modernizm'in yerelliği ve sürdürülebilir mimarlık tarihi içindeki yeri: Tropikal Modernizm ve sürdürülebilirlik. *Tasarım+ Kuram*, 17(33), 243–259. <https://doi.org/10.14744/tasarimkuram.2021.88709>.
- Kuloglu Yuksel, F. S. (2025). Local architecture of Harran with its conical domed houses and February 6, 2023 Kahramanmaraş earthquake. *International Conference on Structural Analysis of Historical Constructions* içinde (ss. 1881–1894). Springer Nature Switzerland. https://doi.org/10.1007/978-3-032-13469-1_150.
- Lim, C., & Seo, M. (2025). Historical sustainability and the embodiment of 'traditionality' in Korean contemporary architecture: Critical perspective based on Kenneth Frampton's theory of 'Critical Regionalism'. *International Journal of Sustainable Building Technology and Urban Development*, 16(3), 402–415. <https://doi.org/10.22712/susb.20250026>.
- Masridin, M. H., & Ismail, A. S. (2022). Critical Regionalism Approach for Djami Mosque Design Towards the Aesthetics of Sustainability. *Journal of Islamic Architecture*, 7(2), 220-232. <http://dx.doi.org/10.18860/jia.v7i2.17135>.
- Mutti, L. (2014). Numerical simulation of a comprehensive 1-D building energy model and conjugate heat transfer analysis on the internal flow field at the Harran houses in southern Turkey for a brick corbelled internal surface.
- Norberg-Schulz, C. (1980). *Genius loci: Towards a phenomenology of architecture*. Rizzoli.
- Ogut, O., Mutlu, N. D., Oguz, B., & Ozdemir, O. C. (2021). The reflection of local materials and culture on architecture: A case study of Harran. In *Cities' vocabularies: The influences and formations* (pp. 167-176). Cham: Springer International Publishing.
- Özdemir, O. Ç., Ögüt, Ö., & Yüzgöl, S. (2025, September). Use of Information Technologies and Historical Building Information Modelling (HBIM), Harran Example. In *International Conference on Structural Analysis of Historical Constructions* (pp. 2986-2996). Cham: Springer Nature Switzerland. https://doi.org/10.1007/978-3-032-13469-1_237.
- Photographs from the Archive of the Sanliurfa Regional Council for the Conservation Cultural Heritage of Ministry of Culture and Tourism.
- Sharbaji, F. (2025). *The Architect Guide: A Learning Reference*. Feras Sharbaji.
- Steyn, G. (2015). Roughness, primitivism and regionalism in contemporary architecture. *South African Journal of Art History*, 30(2), 74-93. <https://hdl.handle.net/10520/EJC184199>.
- Ugah, U. U. K., Babalola, O., & Ekeh, E. (2024). The shift from traditional to modern architecture: A review of 20th century development. doi: 10.20944/preprints202408.1679.v1.
- United Nations Conference on Trade and Development (UNCTAD). (2024). *Handbook of statistics 2024*. <https://unctad.org/publication/handbook-statistics-2024>.
- Yüksel, F. Ş. K., Melikoğlu, Y., & Akalp, S. (2025). Impact of iwan orientations on building energy performance: a case study. *International Journal of Global Warming*, 37(2-3), 305-323. <https://doi.org/10.1504/IJGW.2025.149154>.
- Zheng, Z., Schmidt III, R., & Richards, S. (2023). Re-interrogating critical regionalism. *Architecture and Culture*, 11(3-4), 327–352. <https://doi.org/10.1080/20507828.2024.2431454>.