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شاخصه‌های بومی و فرهنگی؛ نمودار ساختاری ویژه در معماری هورامان

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Special Characteristics of Hawraman Architecture, Delving into Cultural and Local Attributes

Koorosh Amini*¹, Roonama Noori²

1. M.A. in Geography and Rural Planning, Payame Noor Marivan Branch University, Iran.

2. M.A. in Fin Arts Creative Writing Editing and Publishing, Sam Houston State University, U.S.A

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Abstract

Vernacular architecture is one of the most representative of each culture. The current study canonizes the architecture of a part of simple but magnificent Iranian architecture in the Zagros (Hawraman region) slopes. It has special attributes with a hidden identity in the field of rural structure and architecture, erected as a product of human, culture and nature intersection. The current study applies a descriptive-analytical research method based on library research and field studies. The findings of the study show that Hawraman architecture was formed in the light of its culture and in harmony with nature. The villages are located on narrow valley hillsides with a high slope. The dominant typology of buildings are as double-story buildings standing against the mountain slopes.

The village has centers equal to the number of neighborhoods, structurally. Settlements are built where lands had the least usability for the other means. The lack of dead ends alleys in the physical structure of residential areas results in the minimization of natural and human hazards. The integration of stone, soil, and wood, application of Dimak and Marôla for jointing the structure parts and preventing drift, use of thick stone walls to prevent heat exchange, canopy and rain collector around all walls are unique characteristics that have substantial difference with inwardly oriented buildings in central Iran. Understanding the accumulated experiences of such a style provides us a great knowledge of the construction of buildings by preserving its original texture and identity, keeping the organic structure of nature.

Keywords

Hawraman, Architecture, Culture, Rural housing.

Introduction

Ancient and lasting civilizations have always sought solutions to mitigate the violence of nature and to

sustain human survival in their geographical area in dealing with the geographical environment (Papelli Yazdi, 2002, 243). One of the most important factors

✉ correspon author: amini.koorosh@yahoo.com,
+989183314459

in recognizing any culture is its vernacular architectural style. In fact, vernacular architecture is a tool for analyzing the revealed and hidden layers of a culture, by its means to understand , architectural relationships with security and comfort, natural climatic conditions, the environment, the economy, and ultimately the main body of culture. Considering two, private (residential houses, Hawar ¹, garden houses, etc.) and public areas (baths, mosques, Takyeh, etc.) in the building and the dwellings of Hawraman it can be found that unlike the central plateau, the public sphere is not very functional and not even visible, but the private sphere most considered. has grown dramatically and has tailored to people the requirements. Today, in the 21st century, the meaning of housing is beyond physical attributes.. In the political and military literature, housing has taken equal to the land, as fightings of different ethnic groups, and cultural invasions have taken place around the world in order to obtain a suitable environment for the construction of a better housing (Bahrami, 2011, 97).

Every place has an interconnection of the textures of natural and human characteristics; with a little contemplation, we see they are responsive to their apparent and hidden relationships. Each place has environmental, human, and cultural characteristics that distinguish it from the other places, giving it a special place of power and separating it from its surrounding space (Behrouzfar, 1995, 13). In the digital age with its postmodern concepts and demolition techniques, the Hawraman architecture with a millennia-old history is still going on as a dynamic masterpiece. The people of Hawraman stay in their village in the cold months of the year and in the warmest months, gardeners move seasonally to the garden and ranchers to the countryside, but the important point is that the way of life in the garden and the countryside is not much different from the village life (Rostam, 2011, 372). Hawraman's traditional architecture is a combination of natural, historical, environmental, cultural and economic elements that has maintained the spatial identity of its inhabitants up to now In terms of residential texture, the houses in this area have their own characteristics and are often similar to each other and have used local materials such

as muds, stones, and wood. In recent years, however, new materials such as iron, brick, stone, and cement have been used with the advent of technology and the enhanced roadways connections. Something that alone disassembled the original Hawraman architecture and undermined its ancient identity.

Culture defines the relation between man and the environment and strengthen his roots both in nature and in society. With the help of human culture, they become interdependent and with the commonalities that are born of that culture, the nation is created, which is a bond between him sharing memories, what they love, what the enemy sees, sharing language and the other things. Culture is related to the spiritual capital of a nation that encompasses all literary and artistic works (Momeni & Masoudi, 2016, 70). Architecture of the gardens and countryside is still in place, and it can be dared to say that the length of the walls and the number of stones used in the architecture of the Hawraman Gardens are several times more than of the China wall. Of course, given that the walls of the Hawraman architecture was constructed by both suffering and sense of pride of the Hawram people and the Chinese wall was built with the oppression and vigor of local people by rulers . Hawraman's architecture perfectly combines the water, soil, stone, and wood into a cosmic and philosophical order that it is difficult to distinguish them from each other and from the natural balance.

This architecture have been inspired and influenced by its context culture. Hence the stepped or mountain architecture does not fully convey its spiritual and cultural character and its great connection to the surrounding nature. . With this explanation, it is suggested that the title of Hawram School of architecture be cited instead of the stepped architecture. Understanding this, the factors that underlie the physical context and spatial structure and living spaces of a city are as follows:

1. Anything that gives rise to cultural or social meaning and the relationships that result from them.
2. The way of defining the world
3. An environmental look at the world and the elements of the natural environment in general (Habibi 2014, 4).

The Hawraman architecture in terms of identity is authentic. It has its own characteristics that have not been influenced by the other architectural patterns over time and has remained intact. Infact it has a special identity hidden behind its simple appearance and it rooted in the culture pf this land.

In this regard, the research question is how to study the intended regional architecture patterns and the impact of indigenous and cultural characteristics on the physical texture of its villages.

In this research, we aim to analyze and explain the architectural relationship of the area under study with the nature and culture of the people, to analyze and study the architectural principles of these settlements (Fig. 1).

Background research

The architecture of the western region of Iran has been obsoleted from research for many years and has received less attention than the central region (Hasheminejad & Molana'i, 2008, 18).

Hawraman is one of the most powerful cultural areas of the Zagros slopes that has a long history in the process of cultural developments, including indigenous architecture. The architecture of any land is a product of its culture, climate, industry, construction methods and beliefs of the people of that country. Accordingly, architecture as a full-fledged ritual represents the tastes, resources, knowledge, and ability of its builders (Memariyan, Azimi & Kaboudi, 2014, 47). Pour-Jafar et al (2009) conducted a research study on the village

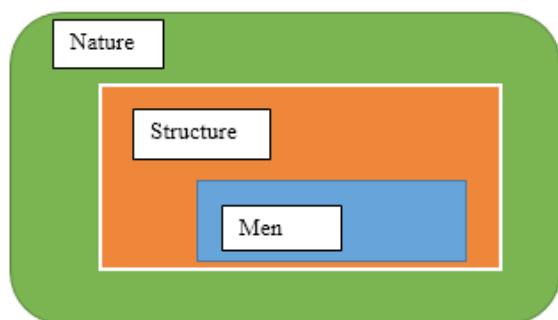


Fig. 1. The Relationship between man, building and nature . Source: Momeni & Masoudi, 2016, 79.

of Takht e Hawraman entitled “Recognizing the Effect of Meaning on the Immortality of Place”. In this study they assert that symbols of naturalism can be seen in the physical context of the village (Pour-Jafar, Sadeghi & Yosefi, 2009, 14). Monuments belonging to the people tradition are the direct and unconscious interprets of the needs, values, desires, and instincts of an ethnic in the language of that ethnic’s material culture, so the people architecture is a worldview which has been expressed in other way (Rapoport, 1972, 13).

In most of the villages and towns of Hawraman, narrow alleyways give way to a variety of passages by creating corridors (Dalan)² or covered passageways. In cold and mountainous areas, the village is shaped in a sloping manner, which means that it is in harmony with the slope of the mountain. A part of the house on the lower floor is dug inside the mountains. This action while providing a flat surface for building the house places a portion of the house in the heart of the earth to show the architectural continuity with the earth and the mum of the world (Akrami, 2010, 38). According to Bodling³, one of the most important points in the classification of nature is the evolution of natural structures from non-living to living. Biological living does not mean reproduction, movement, etc., but what can most emphasize the life created in architecture is the design of architecture that is the product of human thought and interacts with humans and the environment around them (Sharghi & Ghanbaran, 2012, 108). The placement of the Hawraman settlements on such steep slopes has caused the housing to be flattened and stacked.

As in most cases, and especially in old neighborhoods, the roof of each house is used as the upper courtyard it has provided unique social interactions that has penetrated in their cultural life. The physical cohesion of human settlements is shaped by social discipline, in which neighborhood structure, neighborhood component, and housing unit conform to the structural characteristics of society (Khakpour & Sheikh Mehdi, 2011, 232). Despite such good features, economic poverty, as well as the constant confrontation and struggle with nature to overcome its wrath, have prevented the

accumulation of such cultural skills and knowledge. For this reason, there has been no major investment in the architectural design and construction despite the good indigenous and unique features of the area (Fig. 2).

Scope of research

The Hawraman area is located on the slopes of the Zagros Mountains on both sides of the Sirvan River Basin extending from east to Sanandaj, west to Halabja province of Iraq, north to Marivan and south to Kamyaran city with some indentations.

Research Methodology

The research method in this study is descriptive-analytical. At first, based on the findings of field research and academic research, the rural structure of the study area was identified with an approach to residential space. Further, the analysis of the theoretical foundations and constituents of rural housing in this area was examined. In selecting the study samples, based on years of field research, it has been attempted to use buildings with various residential uses. The current study concentrates on the private properties as these buildings have been used by different segments of the community and according to the tastes and attitude of local users and architects are also very diverse.

Analyzing and rooting the influence of nature and culture as independent variables on how and why Hawram architecture is also included in the present study. In order to reach this conclusion, the study

has been researched in the field, the style has been observed and interviews with the elderly and local monuments have been addressed.

A brief introduction to Hawraman

Hawraman covers all parts of Hawraman in this article, including Hawraman Lehon, Takht, Shamyani, and Eastern and Western Javanrud. The Hawraman area of 1840 square kilometers is located between circuits of 34 degrees 98 minutes to 35 degrees 38 minutes north latitude and between meridians of 46 degrees 03 minutes to 46 degrees 85 minutes north of the mountainous belt of western Iran and eastern Kurdistan (Mahmoudi, 2015, 38-39). The language of all its inhabitants (with the exception of the Sorani islands) is Hawram. The Hawram language belongs to the group of northern western languages of Iranian languages, (Dabir Moghadam, 2013, 794) and it is believed to be the remnant of the ancient languages of this frontier, which despite the widespread comments and writings of many scholars, unfortunately, it has not been truly investigated. Climate zones are also cold and mountainous, with mild summers and snowy winters, but due to the high altitude differences, even at certain times of the year, there are severe climate differences between adjacent areas, with the onset of growth and spring which sometimes varies up to two months. This unique feature of ancient times has led to the emergence of a particular type of immigrant life during permanent residence. Because of being impassable, Hawraman has historically had an autonomous and independent government, and has had his own particular culture and practices, including the democratic way of electing the "council" of the pre-Islamic state administration that directly held in clear and regular elections by men and women of known age (Memariyan al., 2014, 49). From the very beginning of its history, the region has been exploiting a wide range of territories surrounding it, with dense settlements around the central cores of the villages. A society is not organized by tribal organization but by a new concept. When Cecil J. Edmunds arrived from Iraqi Kurdistan to the village of Hani Garmaleh



Fig. 2. A: House buildings on steep mountainous slope Source: www.architect.nemoneh.com. B: Nowdeshah city; the roof of every house is a yard for the upper house. Source: author's Archive.

in Lehon's Hawraman he was amazed by the order and cleanliness, the orderly organization and the existence of sanitary toilets and says:

I remember being in shock at seeing the health arrangements that were in place and much better and better than what I had seen both before and after in Iraq and Iran. These facilities were also prestigious and pride to the Vespasian⁴ himself (Edmunds, 1988, 187).

The settlement and texture of the villages

In the vast majority of cases, the geomorphologic structure of Lehon's Hawraman and Takht's is rocky mountainous and Javanrud is mountainous, mahouri hill. Physically and topographically, the regional villages under study are divided into three groups: 1. Mildly steep Mahouri hills such as Paygelan and Zhenin in Javavrud and Dezli and Damiv in Takht's Hawraman 2. Medium-sloping mountains such as Paveh and Bayara in Lehon's Hawraman 3. Mountainous steep slope like Nowdesheh and Hajj in Lehon's Hawraman and Zhiwar and Bolbar in Takht's Hawraman. In this structure, the city and the village are on two sides of a valley with different slopes. In many cases, there are residential homes on one side of the valley and on the other side the fruitful gardens of the village.

Principles of vernacular architecture of the region
The natural environment is the most influential factor in the texture of the village (Rezaei & Vasiq, 2014, 40). In the villages of Hawraman, due to the mountainous slope, they usually build the main dwelling on sheepskins. The stalls, storerooms, and kettles are assembled in a complex that forms a semi-terrestrial state on two legs (Rasoolpour & Azizi, 2015, 7). The use of stone, soil, and wood is so intertwined with the fabric of architecture and even people's lives that Hawraman without stones has no place in people's minds. The cutting of the stone with such skill and elegance of the artists has made it possible to enter the neighboring areas as a Hawram or Hawraman stone to the architecture and construction literature of the people. The houses in these areas often have two or more floors with a guest

reception area that is better positioned than other spaces and the entrance is independent of the other rooms (Rezaei & Vasiq, 2014, 41).

The construction and formation of sustainable village cores were on steep and poor terrain for horticulture and agriculture; also the gardens are located upstream. The design and implementation of this task have been important in several ways:

1. Since gardening has been a major source of income in the ancient Hawraman, the development path of the village should not be drawn into the gardens.
2. Creating a beautiful and artistic landscape in the south of the village and building homes overlooking such landscapes.
3. Easy access to water and optimum use of the water used by the village for gardening.
4. Easy supply and construction of building materials including hillside rock slopes.

Main and effective factors in the rural structure of Hawraman

Vernacular and traditional architecture is the code of rural cosmology. In other words, the secret of rural architecture is that for the (native) human being to build a home is a new way of universe and living (Eliade, 1999, 88). The old texture of the countryside has been designed and located on the southern slopes to maximize the use of sunlight, especially in cold winters, and vice versa using cool summer shades. One of the prominent features of the village texture is its special and unique physical structure which can be mentioned as good and cultural indicators. Housing in all cases is based on geographical and natural location and requirements.

Where human interaction with nature has reached its maximum, stone, soil, and wood are the most important materials needed for Hawraman housing. Stone is the main material for the foundation and walls. Wood has two major roles: (a) as a Dimak and Marôla in wall; (b) as a column; (c) transverse beams on the ceiling. Soil also has three main roles: a) base and wall adhesive b) thermal and moisture-proof roofing c) white soil as interior decorating materials.

Natural elements such as wood, stone, and soil have been the most important building blocks of architecture and what distinguishes the art and art of a land or a historical period is the way it is used (Shah Mohammadpour, 2013, 44 & 45). The arrangement and type of materials used have their own function. Timber Dimak⁵ is used in the walls of the old mulberry tree in the area and has the highest amount of pressure tolerance, dehumidification, resistance against decay, preventing wall cracking and etc. In the small earthquakes prevent the wall from cracking and give the wall some strength. Normally, if the cracks are caused by thrust forces or local seating on the wall body, this crack will not be complete and will stop at the location of the layers of wood. But on the contrary, Marôla is short cuts from the wooden trunk of a small mulberry tree seedling planted in a row across the wall of the building. In this case, it is as if the building is being rolled over, preventing the house from being damaged during an earthquake to waste some earthquake energy. It should be noted that the raw on the Marôla's surface must be Dimak. Sometimes, however, the short cuts of Dimak are used individually to attach the inner and outer folds of the wall, which is most likely to be subject to rain and flooding and the wall may be loose. In this respect, there are fundamental differences in the principles and theoretical foundations of the mountainous architecture of western Iran with the introverted architecture of the center of the desert region

(Hashemnejad & Molana'i, 2008, 18); (Fig. 3).

Building form

The high temperature of the cold season in cold and humid regions and the need to optimize temperature has made it necessary to maximize the use of sunlight, utilize daily temperature fluctuation, and preserve heat in residential areas. Therefore, the form is designed to withstand severe cold and reduce the level of contact with the cold outside.

In most villages, and especially in the past, the buildings had a dense plan and texture. The form is designed to lower the contact surface with the outside cold so that less heat is transferred from the inside out and vice versa. The stones in the area are cut and used in the shape of cubes or rectangular cubes after excavation. Although the shapes of the stones used in these indigenous structures follow the same purpose, which is the combination of strength and beauty, they are still highly varied in different ways of arranging or merging. On the exterior of the building, most of the rocks are cut into regular geometrical volumes (cognitive aesthetics), and in other cases, the more natural rocks (Stability and strength) are used. However, the shape of the stone partly determines their arrangement for solidification (Shah Mohammadpour, 2013, 45).



Fig. 3. A, B: Exterior and interior facade of rocky basement in Nowdesheh. Source: author's Archive. C: comparison with complementary schematic design of "arch" from rock. Source: Zomarshidi, 2008, 19.

Thick walls

The large diameter of the masonry stone walls also prevents heat exchange between the interior of the building and its exterior. Such walls protect the heat and heat of daily sunlight in the warm seasons and the effect of cold burns in the cold seasons and help to regulate indoor temperatures. However, these thick walls also carry the load of the roof. The best material available was also stone (Ibid). According to one master of the ancient buildings of Nawdesheh, the lower rocks in the wake of limestone are moisture-absorbing. The walls of 50 to 80 cm of stone and mud are kind of a temperature insulator and keep the house warm in the winter and cool in the summer. This was worth doubled in the past when the heating and cooling facilities were not present. The indoor space was covered with a white flower whose soil was obtained from a special place in the village called Glêjaanê⁶ and during certain stages of smoothing and polishing operations, (Saaw karday⁷) was covered. The stone used is solid, heavy and moisture resistant, in the form of carcasses or slates. The stones used in the construction of these walls are of great size and variety in terms of component selection, shape optimization, fitting and layout. Visually, stone monuments have a harmonious appearance in the overall texture of the climate.

For the ceiling of the house, with a particular artistic work which also had an eye for visual psychology, it has used special wooden beams and planes on it. The boards were also covered in several stages as follows: Initially, a thin layer of palm-sized thin slabs called Dêla⁸, which is often the result of cutting stone walls, covers the timber. That is, no muddy pavement. The Dêla is covered with mud balloons measuring 10 to 15 cm in diameter called Gunnehill and in a regular operation called Gonaġnbân⁹. Then the surface is embanked and fastened by a stone roller made by local monuments. The roller in the local term is called Bântlin¹⁰. During the rainy season, these Bântlins prevent water from penetrating into the building as they roll on the roof. In the old days, the same flower used in the interior of the house (made from a mineral called Gêjănê) was used in the roofs of houses in the hot summer season,

which made the roofs a place for more sunset and evening interaction with neighbors. The windows were overwhelmingly homes, sunbathing and facing south. The doors were made of wood, mostly mulberry and walnut, and were made by local carpenters by designing and encoding them¹¹ (Fig. 4).

The doors and windows in Takht's Hawraman are green and blue. This has undoubtedly originated from their philosophy of naturalism. Blue is a symbol of water and green, the color of trees, forest and nature (Pour-Jafar et al., 2009, 14). Doors are often made of two equal slots. They were somewhat large and of sufficient thickness and therefore of sufficient strength. The small entrance doors were in the ordinary and the large doors of the building or the main entrances were called the gates. On the door of the house, there were two types of wood, one for women and one for men. The sounds of the two are different, and the landlord recognizes that the visitor is a male or female (Fig. 5); (Table 1).

The windows were similar in size and in blue and green colors, signifying a particular vision of peaceful friendship. The windows were made of wood and more than two folding doors (author's research). In each building, there was a large guest room called the local term Divakhan (guest's room). This room was better positioned than other spaces in the house and in most cases, the entrance was independent of other rooms. In each building, the lower floors of the house were usually referred to as Sarkhan and the upper floor as Cherkhan.

Flat roofs

Unlike the desert dome and northern roofs, all roofs in this area are flat. In this case, the water from the rain and snow penetrates the roof and makes it moist. Therefore, in snowy seasons after snowfall, it is rubbed with snow and then rolled with a stone roller to re-compress its mud texture and create a barrier to water penetration (Fig. 6); (Table 2).

The corridors

A corridor is a space between the residential unit and the southern neighbor unit or a section that, if no southern neighbor unit, is located independently to the



Fig. 4. A: An example of a wooden door in Nowdesheh, B: lock body, C: cipher icon. Source: author's Archive.



Fig.5 . Specialized man's and woman's sliding door. Source: author's Archive.

south of the housing unit. It can be part of the alley and passable. It is also commonly used on a space that is either a room with three sides closed and one open or completely open. Its social functions include a place for viewing and social interactions, especially among women. Other functions include a warehouse and sometimes a temporary warehouse for neighborhood residents, a temporary stop for pets (Fig. 7).

Hawraman architectural indicators

1. Consolidation of stone, local soil, and wood, as anatomy of residential homes.
2. The use of Dimak and Marôla (wall balance, equal distribution of wall weight, cracking prevention

and rolling balance in earthquake).

3. Construction of double -story houses with lower floors designed for forage storage and livestock storage and upper floors for human habitation.
4. Design and implementation of a hall map or lounge and two bedrooms¹².
5. The existence of passageways in the building to protect the wall from rain.
6. Use of thick stone walls (conserving energy in hot and cold seasons of the year, preventing moisture from penetrating into the building, in particular, mixing mud inside the wall, in addition to the role of adhesion of rocks).
7. Preserving the authenticity of the vernacular architecture. The latter is such that, even after the Arab invasion, the external order and its internal structure are not disturbed. Live witnesses are the Hawraman mosques, which, without change or at least change, have the same characteristics of the Hawraman residential buildings.
8. Fundamental differences in the principles and theoretical principles of mountainous west architecture of Iran with the central introverted or central desert area (Hashemnejad & Molana'i, 2008, 18); (Fig. 8).

Conclusion

Hawraman vernacular architectural patterns, their

Table 1. Architecture in the garden and countryside. Source: authors.

row	title	Persian equivalent	descriptions
1	Harzala	Lodge	In Hawar(the countryside) or in gardens, these places are constructed using wooden beams and foliage, and especially oak branches. It is temporary for hot seasons and after that, it is removed.
2	Lāsa	—	A place for gathering, drying and slicing forage and more in the countryside. This section itself has various parts to 1) Drying 2) Airing 3) Flattening 4) Shrinking 5) Loading 6) Loading loads on animals (mostly mules) and so on.
3	Kayl, kalû	cottage	Mostly used in the garden space. It is made of stone and mortar. Often the space is 3 x 4 meters with one entrance. For rest and living in the garden and in the cold seasons of the year, keeping some of the garden products.
4	Kalak		The stone walls are meant to be used for carving steep terrain for tree planting. Why in architecture? Used for its elegance and craftsmanship, turning it all into a very beautiful terrace.



Fig. 6 . An example of a garden architecture (garden house with circular corner on the cliff) Snow pits, rock throwers in the mountains. Source: author’s Archive.



Fig. 7. The nested corridors. Source: author’s Archive.

Table 2. Importance of Architectural Characteristics of Hawraman. Source: authors.

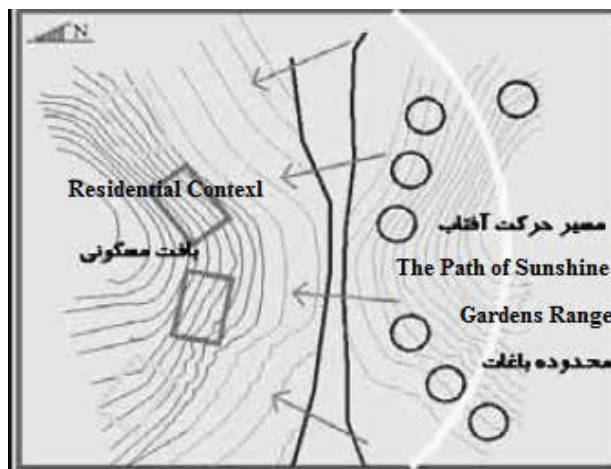
row	feature type	Description
1	Establishment of the village (physical aspects)	Most of the villages are located on a low valley slope with a general slope between 50% and 60%. (Lehon and Takht regions). Or the steep slope of the Mahouri hill (most of the Zhawarud region); protection of cold near the summit and cold airflow near the valley floor.
2	The dominant typology of the building	The two-story and leaning buildings are on the slope of the mountain. Most of the buildings are facing south and southeast (making the most of the sun). From performance-based on need
3	Village structure	The number of centers (number of centers per village) due to the lack of a large flat land, the general texture, the village stretching along the slope, the impassability of the area.
4	Maximum land productivity	Due to the scarcity of land (hard and unusable rocks) the value of land is especially high for arable land. In many cases, they have even picked up soil from the lower slopes of the valley and used it on slopes or on cracked hard rock cover for seedling work.
5	The lack of dead ends in the physical structure of the town and village	It can hardly be said to be specific to these areas, indicating the open-mindedness of its people.
6	residential areas not being in avalanche way	Due to the mountainous terrain, high slope and construction of these areas on steep slopes of mountains and winter seasons with heavy snow and rain and the possibility of floods and avalanches, the idea of preventing possible damages to villages have been established in places that are least risky of avalanche.



A



B



C

Fig. 8. A,B: A city on a mountain (two sides of a valley), the use of Dimak in the wall. Source: author’s Archive. C: Schematic image of the settlement and settlement pattern in mountainous villages. Source: Molana’i, 2005.

creation, and everlasting nature, over centuries explains the characteristics of this architecture. The construction techniques of the Hawraman has remained indigenous to them during the years of settlement and has been adapted with the region's climate and livelihoods. The unique architecture of the area has similarities and differences with the central parts of Iran architecture.

Optimal use of renewable energy such as airflow, natural heating, and lighting, sunlight, etc. have been taken into account in all of the buildings. Examining the architecture attributes of Hawraman reveals the effect of three factors most :

1. Topography, climatic conditions and use of local materials
2. Local culture and respect for nature
3. Safety of animals and livestock

Hawram's fascinating technique of achieving a set of goals of their own is thoughtful and demonstrates their particular intelligence and techniques in understanding the nature of the surrounding environment. Housing as a staircase massif and colony, with sunny windows to the south, was built on farmland and uncultivated land with two-story buildings. The houses in the rows united, the roof of each house, was the upper house yard, extending to the last house at the highest point of the village, thus extravagant and conventional courtyard in these settlements in a manner of social interaction and coexistence in the mold maximizes the use of neighboring roofs. In fact, culture as a mediating factor between man and nature has played its best part and the architecture of Hawraman has maintained its evolution throughout history until today, but in recent times, changes in the household economy and the introduction of new and simultaneous materials have changed. The needs of the household have disrupted the texture and structure of buildings and the physical fabric. Hawraman architecture on the unite building and physical texture of settlements can be seen as a way of mountain architecture and a special way of living and settling over the thousands of years that has always maintained its organic continuity and evolution, with similarities to other Iranian architectural styles. Its natural and cultural characteristics have differences,

so it can be considered a separate and unique way of architecture.

Endnote

1. Hawār, kind of living in the countryside in Hawraman especially in mountainous countryside. During the summer, the villagers, along with their livestock, migrate to the colder mountainous areas with better pastures and return to the village in early autumn. Their temporary housing during this time has temporary structure called Kapr.
2. Dalan, in the local term it is called Mārê. The lower space, and in fact the alley, was used as a passage, shelter and temporary livestock area until entering the stall, a place for overcooking forage feeders, interfaces between the alleyways during the snowy year, etc. and the upper corridor space for Household use is dedicated.
3. Kent Edward Bodling (1910–1993), English economist, poet, and scientist.
4. Titus flavius Sabinus vespasianus, Roman Emperor.
5. Dimak is a large, rectangular cubic blocks of varying size timber used in the rocky walls of buildings and works as the base for the wall. Due to their high resistance to corrosion by water, these timbers are more than mulberry trees and are used intermittently in the walls of the building and are repeated in every 4 folds up to 8 folds of the rock. Its larger size is Bâhû, which is a rectangular or cubic tree trunk over 3 m in height between the building floors and most where the wall may be loose due to the use of doors and windows, is used. When applied above the door, it is called Sarbarân. Marôla are also short cuts of wood that are laid out in rows along the walls of the building. As if you were rolling the building. This will prevent earthquakes from destroying the house.
6. The row on the Marôla must be Dimak. Sometimes, however, the short cuts of the Dimak are used individually to attach the inner and outer row of the wall, which is more likely to be exposed to rain and floods and to the possibility of slipping.
7. Glêjânê, a white soil mine for gilding surfaces of indoor walls. The Glêjânê soil is white and looks like a modern plaster.
8. Sâw karday † Saucarding is the act of glazing the walls of a house (or roof for summer).
9. Dêla, small hand-held floorboards that cover a row of wooden boards.
10. Gonahbân † Use flower pellets up to 15cm in diameter on the Dêla and the roof. This is used to prevent soil and clay from falling into the building.
11. Bântlin; Bantlin, a stone roller up to one meter long and 40 centimeters in diameter, which rolls on the roof and flowers laid on the roof and rolls at the last stage of construction of a building. This will tighten the surface of the spilled soil. In rainy weather, they also prevent water from penetrating the house.
12. Pâsâr † rectangular slabs laid on the Zawan to be a roof-gutter and not to soak the wall in the rain and snow. The slab itself is 1m long, mulched at a distance of one meter in the last ridge of the building, about 40cm out of the wall, and the balconies are erected on the wall to prevent rain from falling on the wall.

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