

The traditional house of the medina of Tlemcen between originality and mutation

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Abstract. Cradle of ancestral know-how, the traditional house of the medina of Tlemcen is today in perpetual mutations because of the transformations which touched its initial structure and which had to remove important elements of the traditional space thus leading to the forgetting the constructive know-how linked to the deleted elements. The work tries to highlight the constructive elements of the original model of the traditional house of the medina of Tlemcen, going from the walls, to the columns and arches, to the crossings. Then to architectural elements such as openings, doors, as well as coverings that cover walls and floors. The work thus treated the current model of the traditional house, one wondering about the persistence of the original model of the traditional house in that of today.

Key words: Traditional house, transformations, medina of Tlemcen, know-how, original model, current model.

1. Introduction

Traditionally, changes have taken root in traditional buildings. However, nowadays, the speed of these processes of transformation has become exceptional. The processes of transformation, which we present in this research, correspond to the changes that occurred from the moment when the major means of transport and distribution, the standardization and the mass industrialization of new materials come into play, automatically and suddenly leading to erasure of traditional know-how.

The result of these transformations has resulted in a configuration according to Marc Cote: "the current space is not an integral reflection of the present society: sometimes by juxtaposition, sometimes by superposition, it preserves elements of precolonial and colonial spaces, giving it that composite look"¹.

Currently, the pace of transformation is accelerating so much that entire parts of the built park no longer exist and no longer resemble what they were only thirty or forty years ago. In situ observation has allowed us to notice that the original character of the traditional house of the medina of Tlemcen was too much affected, on the one hand, by the deterioration and the deterioration of the material elements, on the other hand, by the violent transformations, resulting from the introduction of new materials by the owners who wanted to accommodate this habitat to their way of life by completely ignoring its value and its ethnicity. These transformations may erase any traces of the elements of the original model. It is the evaporation of the material signs (constructive elements and materials ...), but also immaterial (know-how, techniques ...) of the traditional house.

The work aims to approach this house in its constructive dimension. questioning his two temporal models, namely, the original model derived from the traditional building arts, as

¹ COTE 1993.

well as the current model resulting from the transformations experienced by the original model during the colonial period and which he continues to know until the nowadays.

2. Presentation of the medina of Tlemcen.

2.1. Geographic context.

The town of Tlemcen is located in the north-west of Algeria, 800 m above sea level at the foot of the northern flank of the Atlas Mountains. It is 140 km from the city of Oran and 40 km from the Mediterranean Sea as the crow flies. Tlemcen is at 3°38 west longitude and 34°53 north latitude and leans against the side of the Lalla Setti plateau² (1200 m altitude) (Fig. 1).

2.2. Historical overview.

Tlemcen is a city with very distant origins. Its ancient past is attested by the existence of these numerous prehistoric stations, to which is added the long list of other monuments of the pre-Roman, Roman and Arab eras. The Arab-Muslim civilization has undoubtedly marked the most this region, long at the crossroads of the reign of the powerful dynasties that ruled the Maghreb in the Arab Middle Ages, the Idrissids, the Almoravids, the Almohads and finally the Zianides. It was during the reign of Abdalwadides over the central Maghreb (1232-1516) that Tlemcen was to experience the rise of a prestigious capital rivaling splendor and prosperity³. The capture of Tlemcen by the Turks in 1555 will sound the knell for this old capital deprived of its title and its economic preponderance. The French occupation of Tlemcen in 1842 marks the beginning of a break in the socio-spatial homogeneity of the pre-colonial city which was the result of a spontaneous conception and which objectively reflected the cultural and social values of society.

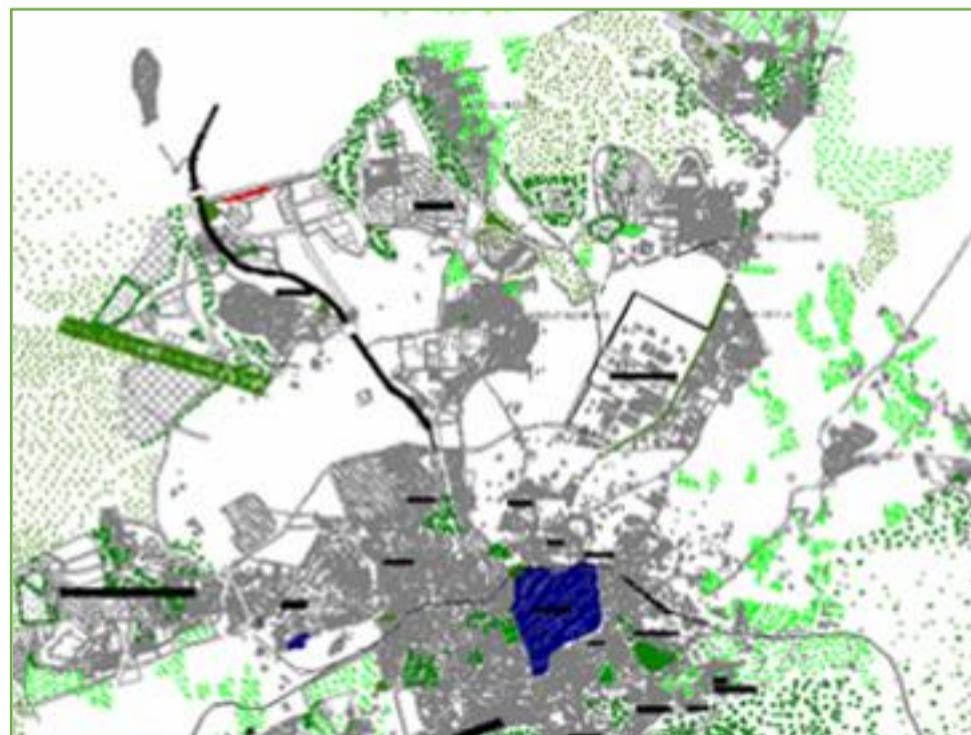


Fig. 1. Map of the city of Tlemcen and the situation of its medina⁴.

² Khaldoun 1999.

³ Youcef Tani 2013.

⁴ Source. ANAT Tlemcen.

3. The traditional house of the medina of Tlemcen. Architectural and spatial characteristics

The traditional house in the medina of Tlemcen does not really differ in its functional principles to that of the Maghreb. In general, it is composed of seven distinct parts: the entrance, West eddar, Darbouz, Lebyoute, Erriwaa, El Makhzen and Esstah⁵ (Fig. 2).

The entrance of the house consisted of a simple rectangular opening. It was little more than 1.60m high with a difference of level of about 40cm between the step of the threshold and the floor of the bent hallway⁶. After the threshold, we enter an angled vestibule (Skifa) bordered on one side of a suite of niches (Dkkanet). The purpose of this chicane entrance is to preserve West dar from foreign eyes. It ends at West Dar, which was often surrounded by galleries (Derbouz). The same feeling that the words of Georges Marçais could bring us closer to this space: "We are at home in the house, we are at home in the courtyard, with a piece of heaven that belongs only to you"⁷.

The rooms in the traditional house in Tlemcen (Lebyoute) are divided into three categories⁸, according to their size and importance:

- El ghorfa : it is the largest of the rooms and the most luxurious.
- Biyt Lagaàd : it is smaller than El ghorfa, it is positioned near the main door of the house.
- Bouiyta : it's the smallest room in the house.

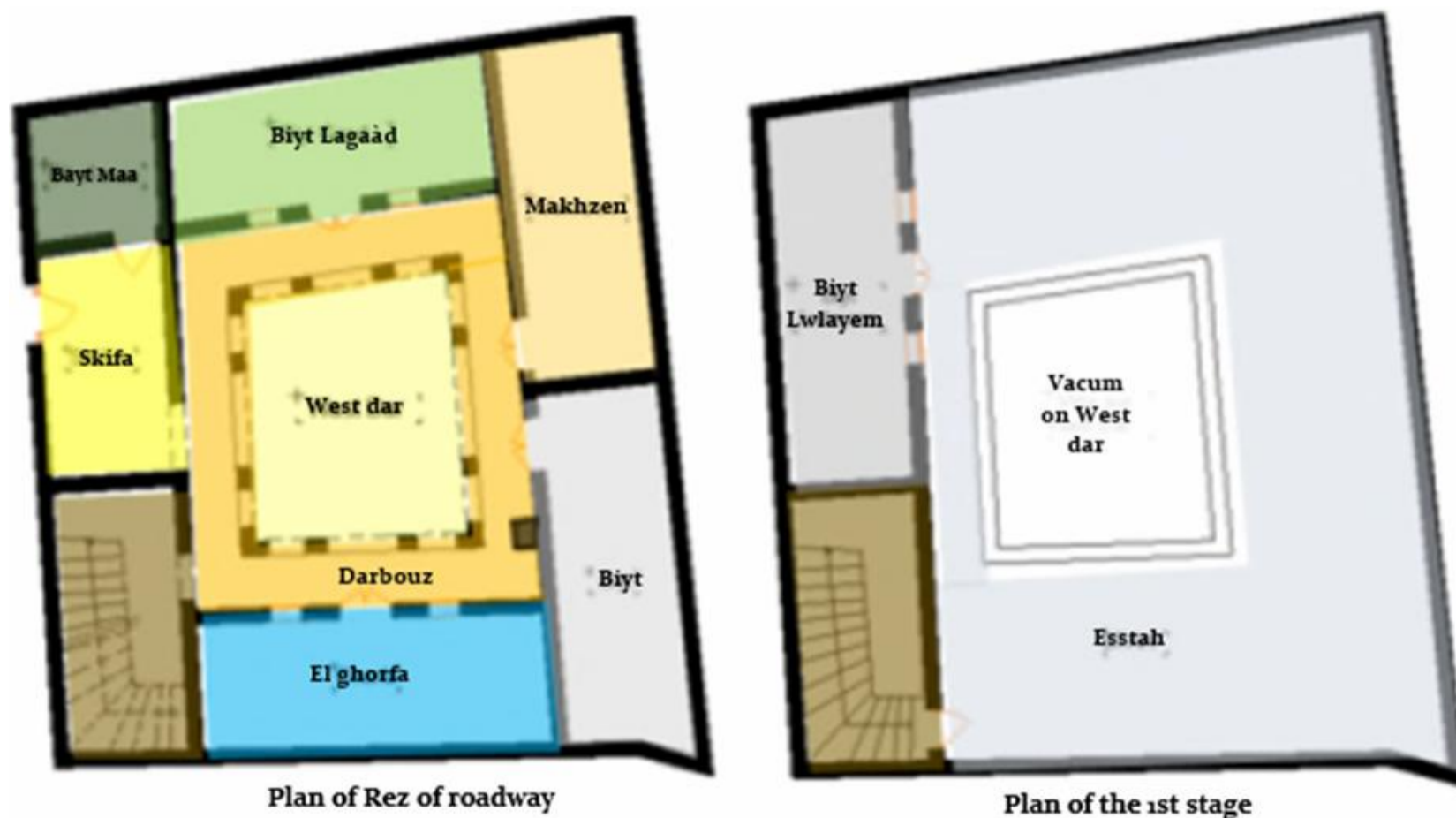


Fig. 2. Spatial organization of a traditional house in the medina of Tlemcen.

El Makhzen in the traditional house is a space for storage and preservation of food, it also serves as a kitchen.

⁵ Negadi 2007

⁶ Negadi 2014.

⁷ Marçais 1950.

⁸ Didi 2013.

Esstah (Terrace) is accessed from the patio by a generally balanced staircase. It contains a void overlooking the patio, the latter is surrounded by a masonry railing. Erriwaa is a kind of stable to house the animals used generally for the transport of goods. This space is not necessarily present in all houses.

4. Constructive elements of the traditional house originating from the medina of Tlemcen

In order to facilitate reading, all the structural and architectural elements of the original traditional house will be grouped into different structures namely :

- The vertical structure (bearing walls and arcatures).
- The horizontal structure (the floors ...).
- The vertical link structure (stairs).
- Architectural elements (coverings, openings, corbels ...).

4.1. Vertical structure

4.1.1. Bearing walls

The walls of the traditional houses of the medina of Tlemcen often present an equipment in terracotta brick, stone or mixed, one can distinguish several typologies of stratifications, on the cob, stops, or flat (Fig. 3).



Fig. 3. Mixed walls with double layer of terracotta brick and rubble-medina of Tlemcen.

4.1.2. The flexible vertical structure

The houses of the Medina of Tlemcen are endowed with a flexible structure, composed of a system of arcades carrying the galleries. The arches are of types : horseshoe, overrun broken or in ogive. Most often, the portico is reduced to three arches on each side, cutting the whole either in a large central bay and two small lateral bays, or bays of the same dimensions (Fig. 4).



Fig. 4. Typology of porticos in the traditional houses of the medina of Tlemcen.

4.2. Horizontal structure

Two types of horizontal crossings can be identified in the traditional houses of the Tlemcen Medina, one with wooden frame, it consists of juniper beams, a layer of reeds, and a coping of earthen filling. The other brick masonry (Fig. 5).



Fig. 5. Wood framed floors and edge vaults.

4.3. Vertical connection structure

In the traditional houses of the medina of Tlemcen, the stairs often have a balanced shape circumscribed by bearing walls. They consist of a wooden log structure, on which are built brick steps (Fig. 6).



Fig. 6. Structure of a traditional staircase, house of the medina of Tlemcen.

4.4. Elements of architecture

4.4.1. The doors

The gates on the street of the traditional houses of Tlemcen, nicknamed Bâb El Fsil are with right lintel, or with arc of exceeded or lowered type. The leaf has on its outer face a nailing that compose the nails arranged in horizontal and vertical lines. The main rooms often have large double-opening doors (Fig. 7).



Fig. 7. Models of exterior and interior doors of the traditional houses of the medina of Tlemcen.

4.4.2. Coatings

These are coatings intended to protect the siding against rainwater, they are composed of a mixture of sand, lime, and admixtures (powder of charcoal and oil). Thus, they are terracotta brick coverings that cover the patio, the galleries and often the terrace. Brick modules typically have a rectangular shape or squares that are 15 cm square and 3 cm thick (Fig. 8).

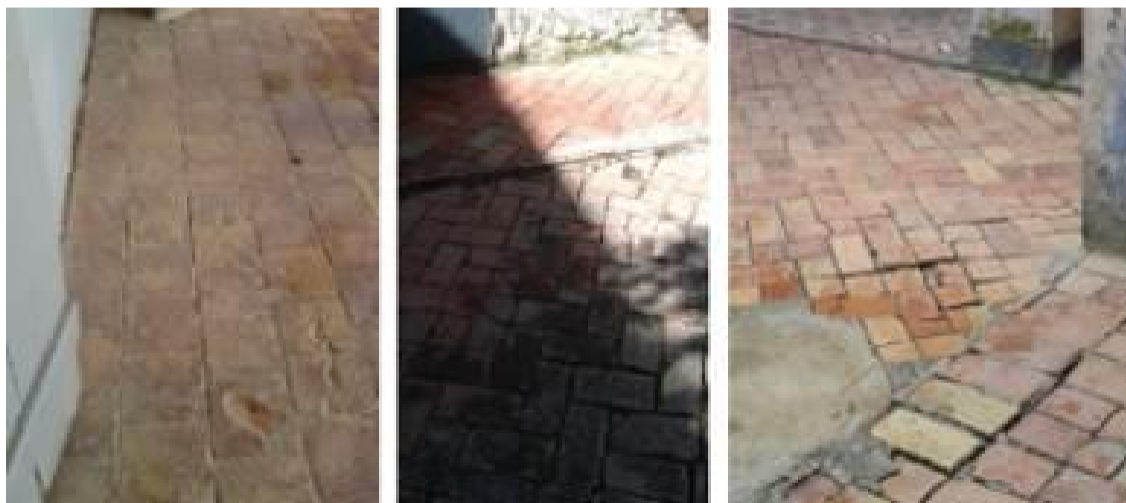


Fig. 8. Terracotta tile coverings

5. Process of transformation of the traditional house of the medina of Tlemcen from the colonial period to the present day

The transformations resulting from modern construction processes have affected all the structural, formal and functional aspects of the traditional house of the Tlemcen Medina. These transformations have sometimes led to the reinforcement of buildings while they have however altered their traditional appearance.

5.1. Transformations from constructive processes of the colonial era

The introduction of the products of modern industry in colonial times led to important changes in the structural elements of the traditional house. These changes are summarized as follows

5.1.1. Modifying the horizontal structure of the traditional house

- Mixed floor with metal beams and vaults

Following the colonial intervention, the wooden floors of the traditional houses were replaced by brick vaults supported by IPN metal beams (Fig. 9). This reinforcement introduction work has often contributed to the strengthening of traditional floors and the consolidation of structures.



Fig. 9. Brick floor supported by IPN metal beams.

- The covering of the patio

During the colonial era the patio is partly privatized, the latter which, originally was open, was mostly covered by metal frames (Fig. 10).



Fig. 10. Patios covered with metal structures.

5.1.2. Modification of the vertical structure of the traditional house

- Remove the flexible structure that surrounds the patio

Following the transformation of the gallery floors and the use of vault and IPN, the arches that often surround the patio were all removed (Fig. 11).



Fig. 11. Suppression of arcades surrounding the patio after transformation of the floors.

- Reconstruction of Stairs

The staircase built in the colonial era differs from the traditional model in its Western architectural style and its large volume. It includes iron as the main material, used in the ramp and in the structure.

- Reconstruction of partitions

This transformation concerns the functional aspect of the traditional house, its main objective was to obtain a new distribution of the interior space. At this time, the reconstructed partitions are not load bearing, made in western brick, they often have a thickness of about 20cm.

5.1.3. Modification of the elements of the architecture of traditional houses

- Modification of openings

This type of transformation radically changes the intimate and intimate character of the traditional house and significantly affects the appearance and composition of the facades. Two new types of house doors appeared, now the wooden entrance door, supported by a western decoration commonly comprising two leaves, surmounted by an opening with iron cladding, and the metal entrance doors has one or two casements with a wrought iron or cast iron grill (Fig. 12).



Fig. 12. Exterior doors transformed in traditional houses of the medina of Tlemcen.

- Texture modification

Before, the exterior and interior walls of the house were tinted with a water paint mixed with lime. The new builders have squarely put aside the quaint local finish replaced by industrial and cement-based mortars. In the same way, most of the ceramic tiles have been replaced by the much more recent colonial earthenware found in traditional houses dating back to the Ottoman era.

- Decorative elements

Colonial architecture, with the advent of iron in construction, brought new architectural trends ; it gave most traditional houses new wrought iron balustrades (Fig. 13), replacing the traditional wooden balustrades.



Fig. 13. Wrought iron metal balustrades.

5.2. Impact of postcolonial transformations on the traditional house

From 1962 to the present day, the generalization of the use of industrial products has led to important changes in the traditional house. These modifications are thus summarized:

5.2.1. Modifying the horizontal structure of the traditional house

- Hollow floor

The techniques used for the construction of horizontal elements have again undergone mutations. The wooden floors or the vaults of the old houses have been replaced, somewhere, by slabs with hollow bodies.

- The covering of the patio

Following the wishes of the owners, who were trying to cope with a different way of life, some traditional houses were equipped with a metal skylight covering the entire patio (Fig. 14).



Fig. 14. Patios of traditional houses covered with glass roofs.

5.2.2. Modification of the vertical structure of the traditional house

- Generalization of the post-beam construction system

The houses have adopted in their framework reinforced concrete columns which play the role initially attributed to the load-bearing walls.

- Reconstruction of partitions

Partitions have been added or replaced to modify the internal distribution of traditional buildings. These partitions are often made of brick or blocks.

5.2.3. Modification of the elements of the architecture of traditional houses

- Modification of openings

The contained character of the traditional house was still significantly affected by the opening of new openings and the modification of the location of the old ones. Thus, new types of entrance doors now appear, the one or two-leaf metal entrance doors presenting various shapes. (Fig. 15).



Fig. 15. Metal entrance doors of the traditional houses of the medina.

- Texture modification

During this period, most of the coatings were replaced by industrial coatings, cement-based mortars, paints, tiles and tiles.

6. Reading of the transformation process of Dar Hssayen Medina of Tlemcen

6.1. Situation

Dar hssayen is located in the center of the Ouled Imam district in the so-called derb sidi zekri area (Fig. 16). The origin of the house dates back to the Zianid period, it combines in one composition the three building systems : traditional, colonial and postcolonial.

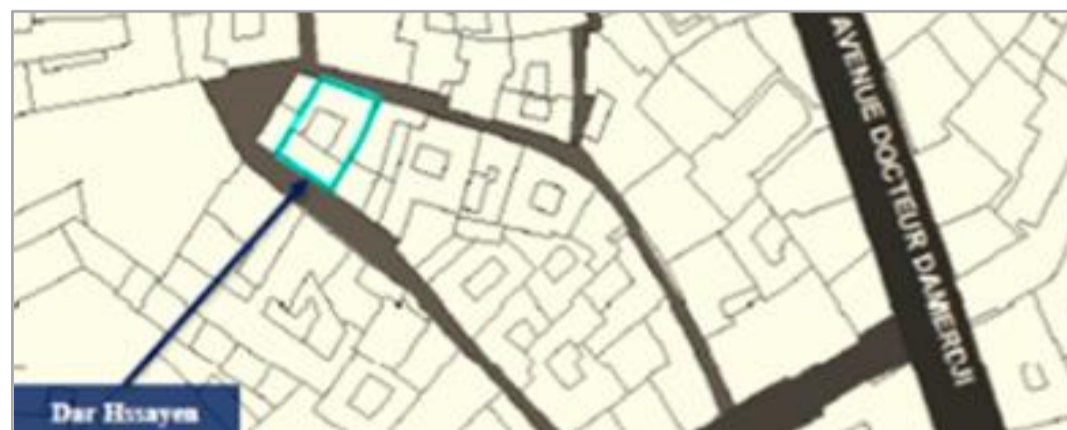


Fig. 16. Location map of Dar Hssayen - Sidi Zekri- Medina of Tlemcen.

6.2. Architectural and spatial description of the house

The house is designed around a patio, it includes a set of 07 rooms divided between the two levels. The house has a single access located on the north-west side, it leads directly to the Skifa which leads to the small rectangular patio. Once inside, we find ourselves in an open space, lit and airy - West eddar-. At the north-east corner of the patio is access to the floor through a balanced staircase. As for the spatial distribution of the house, the ground floor comprises in addition to the patio and vestibule, a Ghorfa, two bedrooms, sanitary and kitchen. The floor is composed of three rectangular rooms and a sanitary. At the last level, there is a small terrace accessible, open sky, it is accessed by a staircase from the gallery of the floor (Fig. 17).

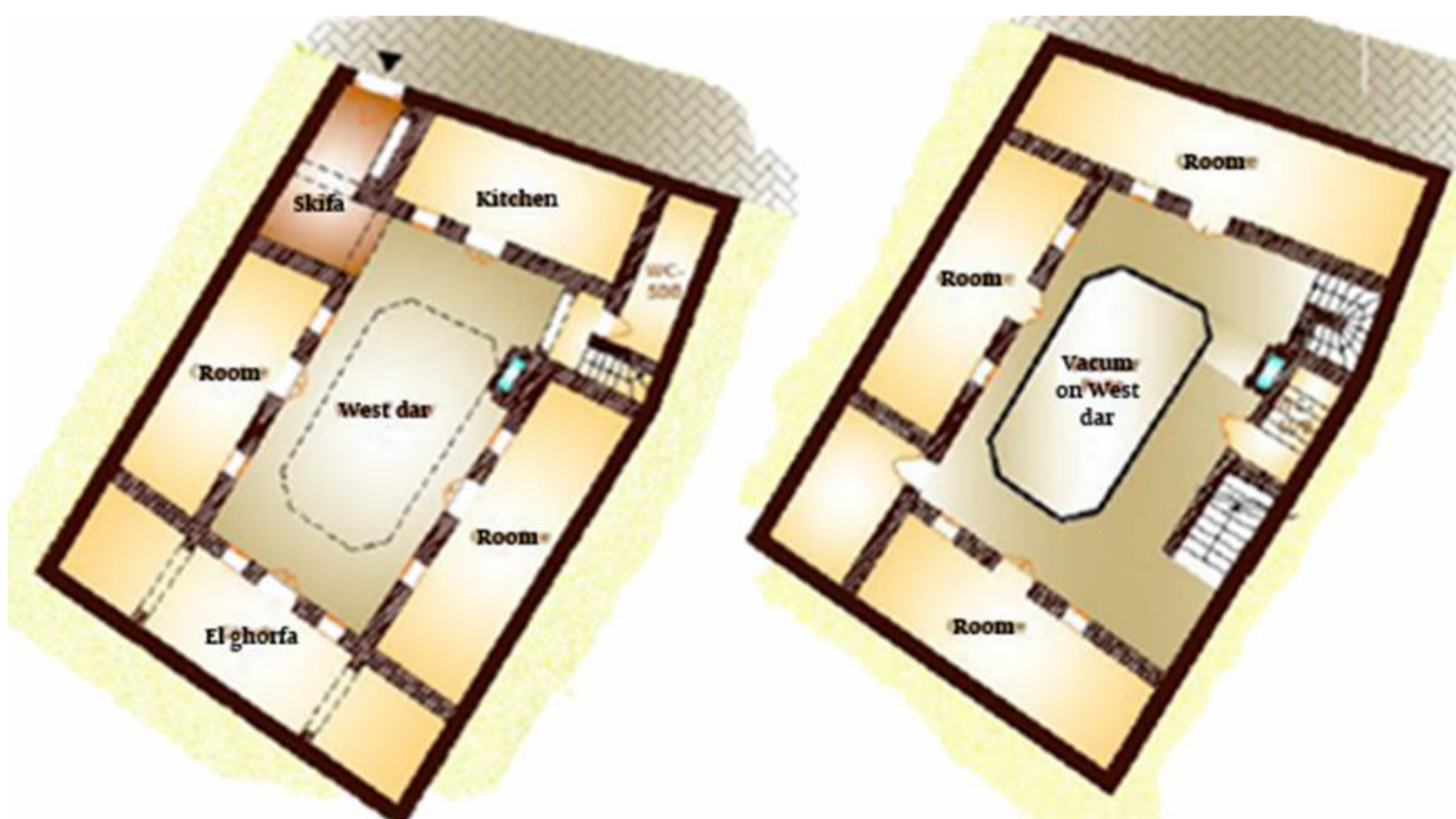









Fig. 17. Plan of the DRC and 1st floor of Dar Hssayen of the medina of Tlemcen.

6.3. Analytical reading of the structural and architectural elements of Dar Hssayen

Dar Hssayen's study consists in isolating the different strata according to the different periods of evolution of the house, traditional, colonial and postcolonial (Table 1).

Table 1. Analytical reading of the structural and architectural elements of Dar Hssayen.

	Elements of traditional architecture	Colonial modification	Postcolonial modification
The horizontal structure	<p>Wooden floors. This type is only at the stairs that lead to the floor, covered with plywood.</p> <p>Type of floors in Dar Hssayen - plan view</p>	<p>Mixed floor with metal beams and vaults This type is applied in, the galleries, the ground floor rooms, as well as the Skifa entrance.</p> <p>Voutains floors supported by metal beams.</p>	<p>Slab with hollow body This type can be seen in every room on the first floor.</p> <p>Hollow floor (parts of the first floor).</p>
The vertical link structure	<p>Stairs Of a balanced shape circumscribed by bearing walls, they consist of high steps and not wide.</p> <p>View of the stairs leading upstairs.</p>	<p>The element has not undergone any transformation during this period.</p>	<p>Reconstruction of stairs</p> <p>View of the stairs leading to the terrace.</p>
The vertical structure	<p>Bearing walls They are made of terracotta bricks and limestone. Their thickness varies from 0,40m to 0,60m</p> <p>Bearing walls</p>	<p>Removing the porticos that surround the patio Following the transformation of the galleries floors and the use of vaults and IPN.</p> <p>Location of arcades</p>	<p>The element has not undergone any transformation during this period.</p>

Architectural elements	<p style="text-align: center;">The Niche</p> <p>It consists of a horseshoe arch, broken masonry brick terracotta. It presents a platform with a depth of 0.30m.</p>	<p>The element has not undergone any transformation during this period.</p>	<p>The element has not undergone any transformation during this period.</p>
	 <p style="text-align: center;">Niche of the entry vestibule.</p>	<p style="text-align: center;">Wrought iron metal balustrade</p>	<p>The element has not undergone any transformation during this period.</p>
	<p>Absence of traces of old balustrades.</p>	 <p style="text-align: center;">Metal balustrade</p>	<p>The element has not undergone any transformation during this period.</p>
	<p style="text-align: center;">The openings</p> <p>The interior doors of the rooms, are wooden two-sided.</p>	<p>The element has not undergone any transformation during this period.</p>	<p style="text-align: center;">Modification of openings</p> <p>A double-leafed metal entrance door replaces the old wooden door.</p>
	 <p style="text-align: center;">Double opening door</p>	<p style="text-align: center;">Installation of a wall fountain (Sahrij).</p>	 <p style="text-align: center;">Front door</p>
	<p>Absence of marks indicating the location of the old well</p>	 <p style="text-align: center;">The wall fountain</p>	<p style="text-align: center;">Texture modification</p> <p>pattern of tiles and tiling that cover the bases of the walls, the floor of the patio, rooms and the Skifa.</p>
<p>No traces of old coatings.</p>	<p style="text-align: center;">Texture modification</p> <p>Earthenware tiles covering the base of the patio walls and the wall fountain</p>	 <p style="text-align: center;">Patterns of wall and floor coverings.</p>	
 <p style="text-align: center;">faience tiles dating back to the colonial era.</p>			

7. Conclusion

The traditional house of the medina of Tlemcen was largely transformed from the colonial existence until our days, the transformations were relative of a house to another, they caused a great loss in our authentic inheritance. Notwithstanding all these transformations:

- The Tlemcen Medina Traditional Home still retains elements of their original model. Some houses whose transformations were small, could keep a traditional character. However, other is whose transformations were large today reflects a character quite contemporary with some elements that refers to the original model.
- Thus we can say that each of the original constructive elements of the traditional house of the medina of Tlemcen has undergone different mutations. Some elements continue to exist such as load-bearing walls and doors, others that have undergone too many changes and modifications, but we will still find some traces of the original elements in old houses such as floors, stairs, and coverings, however, other elements no longer exist in the traditional house of our day, and there is no trace or information that describes them.

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