

BUILDING AND LIVING IN TLEMCCEN (ALGERIA). FROM THE TRADITIONAL HOUSE TO THE COLONIAL VILLA

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Abstract

Domestic architecture in the city of Tlemccen knew changes in architectural design and construction techniques over time, from prehistoric times, through the succession of Islamic dynasties, the colonial era and the current period. Individual housing during the colonial period was marked by the transition from the traditional patio house to suburban housing and individual villas with courtyards and gardens. A comparative study was carried out of a traditional Ottoman house in *Bab El Hadid* district and a colonial villa in the avenue *Allée des pins*, through a historical, architectural and technical approach. Based on field research and compilation of historical background by involving data collection, bibliographical research, archive consultation, site visits, architectural surveys and interviews with the occupants, and presenting the historical context, an architectural and a technical analysis of the materials and construction processes used in the two houses. This article aims to reveal two architectural styles from two different eras, designed for two populations with different lifestyles, and highlights the traditional and modern construction techniques and materials used.

Keywords: Architectural design; construction techniques; materials; traditional architecture; colonial architecture.

1. INTRODUCTION

Tlemcen, one of the oldest cities in Algeria, is located in the north-west of the country is known for its rich architectural and historical heritage (Fig. 1). The city has had several names throughout its history: *Tagrart*, *Pomaria*, *Agadir*, and finally Tlemcen, the capital of the Zianides. Each name witnesses a history, a culture and a population that lived in Tlemcen, starting with primitive man, the Romans, the Islamic dynasties (the Idrissids (765-1069), the Almoravids (1069-1143), the Almohads (1143-1235), the Zianides (1235-1557), the Merinids (1299-1307), the Ottomans (1557-1830)) and finally the French (1830-1962), “Tlemcen knew the arrival of a new European population with a different culture, starting from 1847, the date in which Algeria became under the control of the French colonial authority” (Kari et al., 2021: 1997)

French colonization in Algeria brought many upheavals in society and the territory. The main cities: Algiers, Medea, Annaba, Constantine, Tlemcen and Oran saw their morphologies metamorphosed during a century and a half. (Mouaziz-Bouchentouf, 2017). Cantoned to the interior of the city walls until the French conquest, the Medina¹ of Tlemcen is now made up of three urban fabrics: the medieval, the hybrid and the colonial (Tahar, 2021). This is the result of a great architectural and urban transformations aimed at adapting the city to the needs of the new settlers (Malverti & Picard, 1988: 14). It is an overlap between the medieval fabric created according to Arab-Muslim urban planning principles and the colonial fabric created following the European urban logic of the nineteenth and twentieth centuries.

Until the eve of colonization, Tlemcen shared some morphological characteristics with medieval Arab-Muslim towns, with a radial configuration stretching from the center to the city gates. These radial roads linked the residential areas to the central district, which housed the Great Mosque, the *souk* (market), the former government palace

of *El Mechouar* and the *madrasa* (Koranic school), all of which revolved around two public places. The streets in residential areas were sinuous and narrow (Raymond, 1994: 11).

The arrival of the French marked the beginning of the transformation of the Medina, which lasted for over a century and resulted in the urban fabric we know today (Tahar, 2021). This transformation took place in two ways, intramural and extramural, i.e., inside and outside the Medina walls (Fig. 1). The first takes the form of new streets cut into the medieval fabric and construction on vacant lots inside the battlements. The second took the form of expansion by taking over the land beyond the wall, and was characterized by the adoption of a chessboard layout and an alignment of buildings diametrically opposed to the Medina’s tangled streets (Ghomari, 2007: 24). These mass interventions had a major influence on domestic architecture in Tlemcen. The colonial period was marked by the transition from the Medina house to new types of individual and collective housing. The individual is materialized by the colonial villa, with its many variations, which became the dominant type during the colonial era and even after independence. Collective housing took the form of rental buildings called also the private building (Moley, 1999: 9) and new HLM and HBM housing estates² with and without passageways from 1937, when the first HBM building was constructed in Tlemcen.

After analyzing and studying collective social housing in Tlemcen (Saidi & Mouaziz-Bouchentouf, 2022), the present article deals with family residential housing through traditional houses and the colonial villa in a comparative approach.

2. OBJECTIVES AND METHODOLOGY

The aim here is to carry out a comparative study of a traditional house, *Dar Nebia*, located in *Bab El Hadid* in the Medina, which dates back to the Ottoman period, and a colonial individual house, the Villa *Moghrébine*, located in avenue *l’Allée des Pins*, a colonial boulevard. This highlights two different architectural styles and construction techniques, each one is reflecting its own period.

¹ The term “Medina” (meaning “city” in Arabic) was adopted by French-speaking societies to designate “Islamic cities” in North Africa and to identify precolonial cities in the Arab-Islamic world that existed before colonization such as Tlemcen, as opposed to the cities that the colonial power created from scratch, such as Sidi Bel Abbes (Grandguillaume, 2014). In the colonial context, the term Medina was used to designate the residential areas of the indigenous people, as opposed to the new areas inhabited by Europeans (Kasmi, 2019: 05).

² HLM: Habitation à Loyer Modéré i.e., Cheap Housing: These buildings, formerly HBM: habitation à Bon Marché i.e., low-cost housing: is a building whose housing is intended and are reserved for low-income families (Segaud & al., 2002: 211)

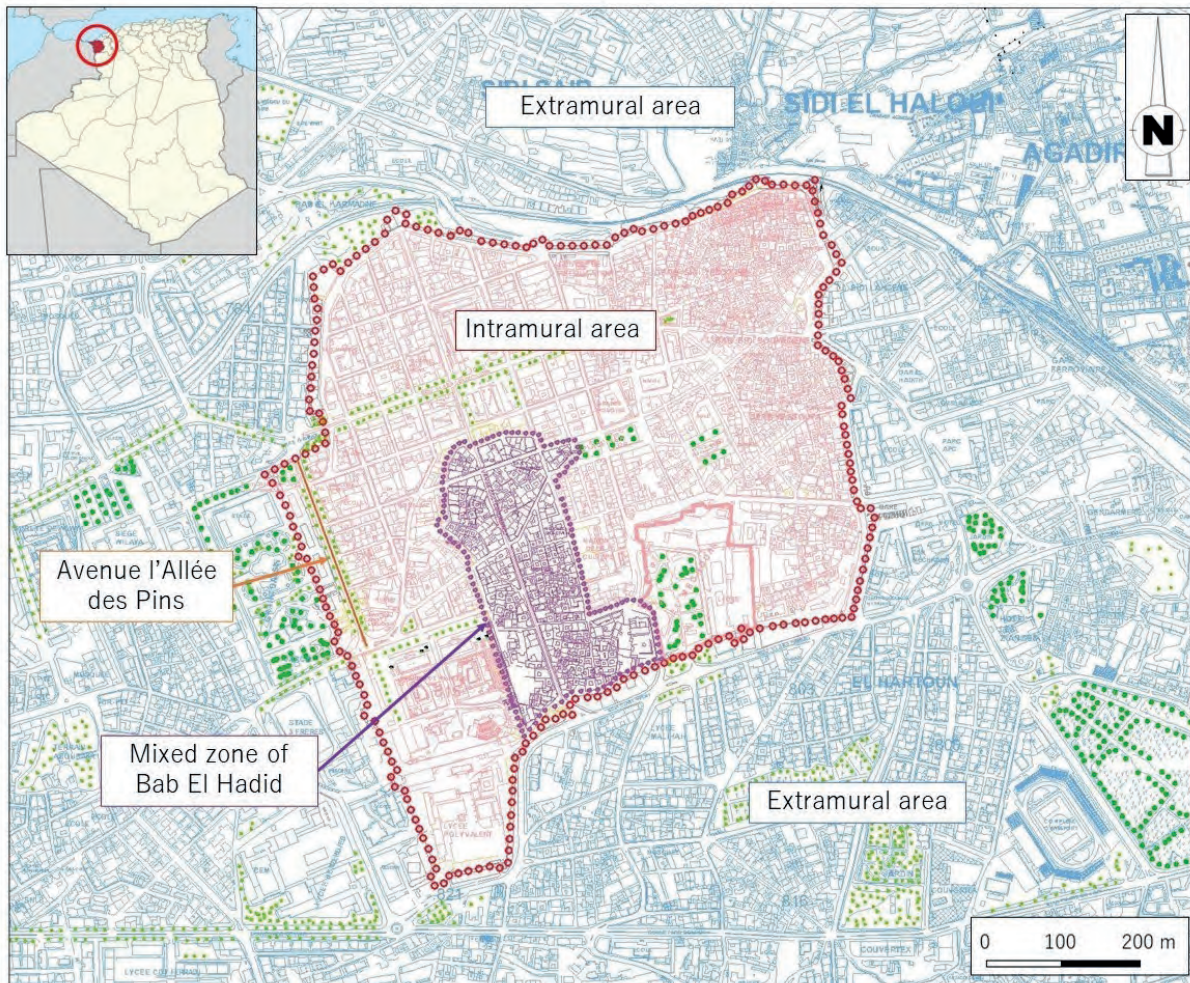


Fig. 1. Location of Tlemcen and its historic center (Intramural and extramural area). (source: PDAU, 2017 (Master Plan of Development and Urbanism of Tlemcen), developed by authors).

The way in which each house fits into the urban fabric, its spatial organization, construction techniques and the materials used are all taken into account. The façades, the architectural style and the habitability of the Medina house and the colonial house reveal the evolution of architectural and urban concepts, and through them, the evolution of culture and lifestyles.

Our study will focus on a comparative approach between two houses belonging to two different periods, two different architectures, two different techniques, and two lifestyles that each of them induces and suggests. It is based on two main axes: an exploratory study, involving data collection, bibliographical research, archive consultation, site visits, architectural surveys and interviews with the occupants, and a descriptive study, presenting the historical context, an architectural

and a technical analysis of the materials and construction processes used in the two houses.

3. THE TRADITIONAL HOUSE IN TLEMCCEN, SPATIAL CHARACTERISTICS AND CONSTRUCTION TECHNIQUES

The traditional patio house in the Medina of Tlemcen is a type of individual dwelling based on an introverted system, with blind exterior walls and all openings leading to an interior space which is the *West Eddar* or patio “the core of the house” (Aguilar et al., 2013: 550) (Fig. 2). This type of house meets the cultural, social and religious requirements of the Arab-Muslim families of yesteryear, who valued family life and privacy. It is also considered to be a building that is suited to the Mediterranean climate. The patios are a traditional element in the Tlemcenean house, both rural and urban.



Fig. 2. Ottoman house in *Bab El Hadid* (source: the authors).

“Being an imported element that comes from the typological model of “the Andalusian house.” Patios are space for communication and help with thermal comfort of the houses. Moreover, it is the space par excellence where social and family life takes place”. (Jofré Troncoso, 2023: 13). Houses in traditional neighborhoods are designed to respect and adapt to a particular way of life, climatic conditions, family composition, and the local materials and construction techniques they suggest (Abbaoui & Djemili, 2009: 29). They all have the same spatial organization: they are built close together to form a compact mass.

This house does not differ from the traditional houses designed in the Maghreb: “An analysis of all the traditional architectural types in the Maghreb shows that they are all built around a central courtyard which structures and orders them”. (Santelli & Tournet, 1987). However, the house in Tlemcen is very similar to that in the Medina of Fez in terms of its spatial organization, construction techniques and the materials used, except the ornamentation is different. (Angadi, 2014: 66).

The patio, the main element of the house, is a space for living and daily life of the family, before being a space for internal distribution and transit. It is located in the center of the house, in a quadrangular shape (Fig. 2). Islamic architecture emphasizes comfort and freshness, as most patios have fountains to cool the air. “The patio is a kind of microcosm that puts the house in touch with nature, the sky, the sun, the fresh air, the earth and sometimes water and vegetation” (Abdulac, 2011: 283). Georges Marçais said, “You

are home, in your own courtyard, with a piece of sky that belongs only to you.” (Marçais, 2005). The spaces organized around the patio known as the *West Dar* are: the entrance, *Darbouz* (the gallery, an arcade that takes on the additional function of acting as a transitional space between private rooms and the open air), *Lebyoute* (the rooms, the sitting room and the living room), *Erriwaa* (the stable for housing the animals), *El Makhzen* (the kitchen and storage areas) and *Stah* (the terrace) (Didi, 2013: 115) (Fig. 3) and (Fig. 4).

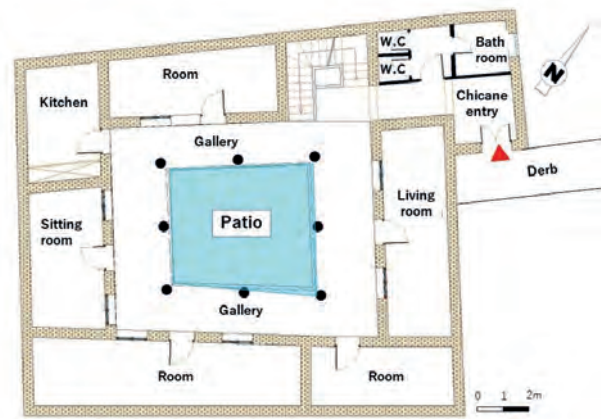


Fig. 3. Ground floor plan of an ottoman house located in *Bab El Hadid*. (Source: the authors).

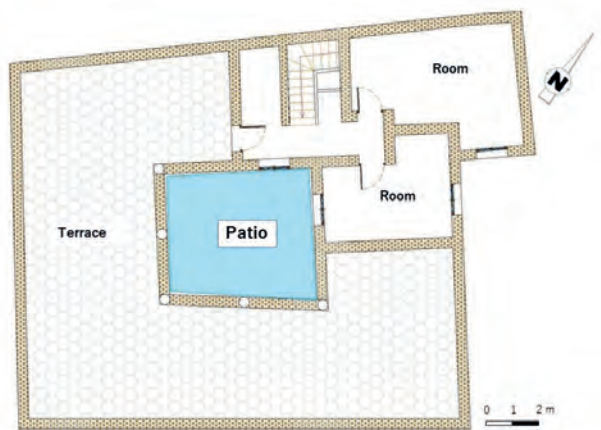


Fig. 4. First floor plan of an ottoman house located in *Bab El Hadid*. (source: the authors).

The Medina of Tlemcen reflects a great “harmony brought about by the intelligence of men in a privileged site, men who knew how to take advantage of all the benefits offered by this site to create, thanks to a shared know-how, comfort and well-being, wealth, buildings worthy of the world’s great metropolises with unequalled

architecture and art". (Ben Mansour, 2011: 07). It is an architecture without an architect, and depends on the know-how and skills of builders, lay craftsmen and other trades: masons, mosaicists, ceramic designers, plasterers, carpenters and painters. The constructive elements in traditional house architecture are classified according to their nature and their role in the structure.

The vertical structure is therefore defined by supporting walls, supports and arcatures. supporting walls are made from an assembly of bricks or stones using a pattern that differs according to the nature of the material. In Tlemcen, there are three types of walls used in the construction of traditional houses: mortared stone walls, also known as *opus spicatum*, are between 60 cm and 80 cm thick, and the mortar contains more earth than lime. Earth masonry walls called adobe and clay brick walls called *Opus Tectaceum*. Their thickness is between 40 cm and 80 cm. The third type is mixed stone and terracotta walls, which thickness varied between 40 cm and 55 cm (Fig. 5). As for the supports, they are vertical structural elements represented

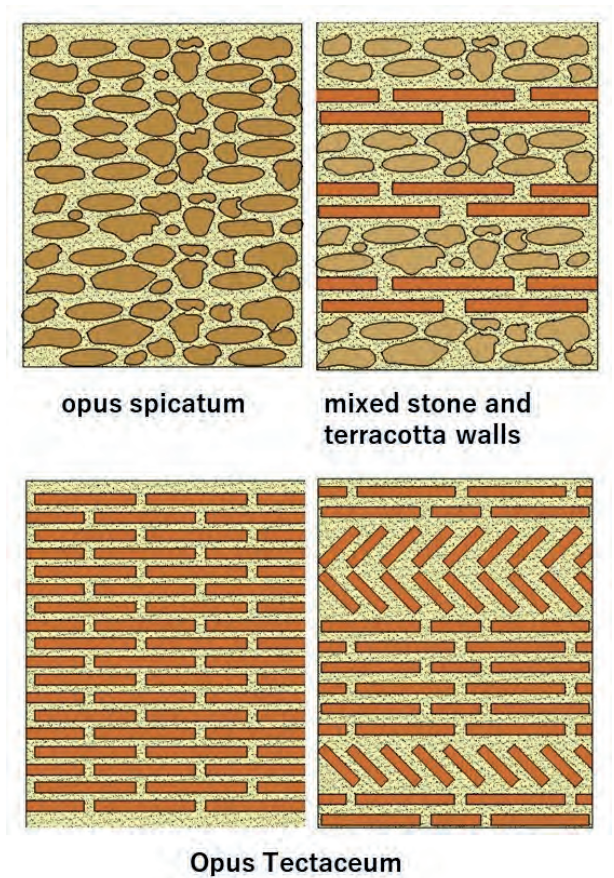


Fig. 5. Different types of supporting walls (sources: the authors).

by square pillars made of terracotta bricks which dimensions varying from 40 cm to 60 cm and circular marble columns, which are the support elements for the galleries in traditional houses dating from the Ottoman period. (Djilali, 2014: 87). The arches of the arcatures are made of terracotta bricks. There is a very wide variety of arches: rounded horseshoe arches, broken horseshoe arches and pointed arches. etc.

The horizontal structure is made up of floors and vaults. The floors are rectangular in shape, their frameworks are made of wood composed of branches and beams (thick wooden logs), these floors are made up of three layers: the wooden framework, the floor slab and the coverings (Fig. 6). (Casanovas, 2008: 139). The terrace floors, also known as roofs, have the same wooden structural composition as the floors of the lower stores, but their special feature is that they are protected against water infiltration by a layer of lime. In the Medina of Tlemcen, the type of vault used is the groin vault with a rectangular also sometimes known as a double barrel vault or cross vault base, built of terracotta brick, and dating back to the Ottoman period in the town of Tlemcen. The floors are linked by a staircase located on the side of the access door. These are often either balanced or straight. The steps are high, uneven and not very wide. They are made of bricks masoned with lime mortar. (Djilali, 2014: 90).

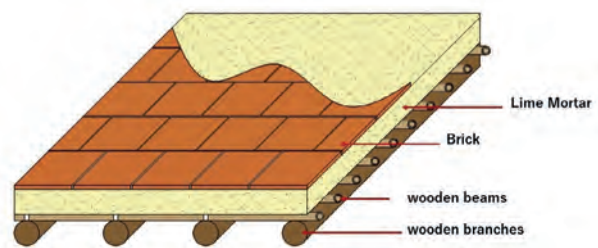


Fig. 6. Component's wooden structure floors (sources: the authors)

Traditional house is built using local materials such as *Asimiya* clay bricks, which are used for pillars, courtyard paving, stair treads, arch covering, etc. These bricks are 2 to 3 cm thick, 12 to 13 cm wide and 23 to 24 cm long. The limestone (rubble) is extracted from quarries not far from *Sidi Boumediène* called *Djebel Benian*. It is used in the construction of supporting walls. The wood used for the floors of traditional houses in

the medina of Tlemcen is *Aārar* (Cedar) and *Taga* (Juniperus). It is extracted from a forest located in *Sidi Abdeli* and *Sidi Boumediene*. The timber market was located inside the eastern ramparts, between *Bâb Zir* and *Bâb El Djiad* (Djilali, 2014: 79). The main limestone quarries and kilns were located in *Ain Hout* and near *Sidi Boumedienne* (*Bâal quarry*), in *Sidi Tahar* and *Agadir*. Ceramics were used for covering and decoration.

3.1 NEIGHBORHOOD OF BAB EL HADID, OTTOMAN CREATION

The Turks forged marriage links, giving rise to a new population called *Kouloughlis* (soldier's sons). (Abadie, 1994: 31) Turkish father and Andalusian mother (Ghomari, 2007: 21). The Turks created their space from ex-nihilo, settling in a free zone in the south-west. The presence of the Turks in Tlemcen is marked by the creation of the *Bab El Hadid* neighborhood (the career gate), known as the upper town (Fig. 1). This ancient fabric was significantly changed during the colonial period. Several streets and avenues were created, including the *Rue de Paris* Street, which opened up on a great Arab-Muslim urban fabric.

Opening up the street required the acquisition of a large number of buildings and grounds, much of it privately owned. It is a major street in the center of Tlemcen, linking the gate of career to the avenue of North at the other end of the intramural city. It is a major commercial axis, it is also an important artery, enabling people to cross the intramural city from south to north. The *Bab El Hadid* mixed zone covers an area of 10.8 Ha, bounded to the north by street *Bezzar Mohamed*, to the south by avenue *Hamsali Sayah*, to the east by street *Ibn Khamis* and to the west by street *Lieutenant Hadri Mansour*. The district's main vocation is residential. There are 421 buildings, 370 of which are residential. These varying from traditional Ottoman houses to rental buildings and colonial villas (Fig. 7).

3.2 DAR NEBIA IN BAB EL HADID, OTTOMAN HOUSE - HOUSE N° 03:

Dar Nebia is an introverted Ottoman house located in *Bab El Hadid*. It is well preserved and perfectly symbolizes the type of Ottoman house. This house, numbered 03, is accessed from an impasse serving the entire neighborhood unit, which comprises 4 houses. The house is bordered



Fig. 7. Plan of the Bab El Hadid Mixed zone. (Source: the authors).

to the north by an impasse and houses, to the south by a *Derb* and houses as well as the *Sidi Ibrahim Mosque*, and to the east and west by other houses (Fig. 8). *Dar Nebia* house was built during the Ottoman period. The house of the Ottoman period takes up the same characteristics of the Arab houses, the plan of the traditional house with patio during this period knew additional

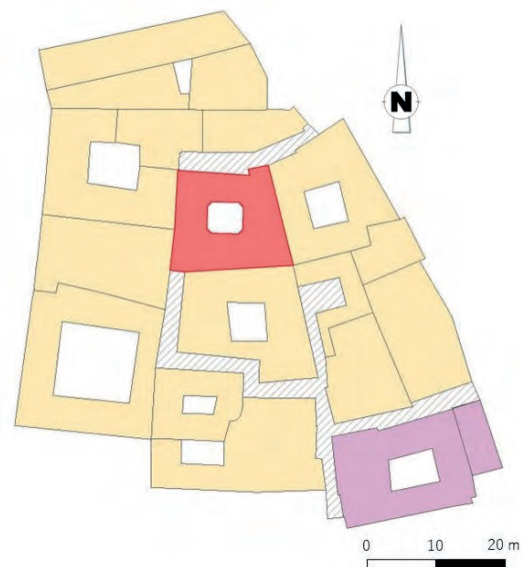


Fig. 8. Location plan of house N° 03 - Dar Nebia in Bab El Hadid (source: the authors).



Fig. 9. Plan of the lower level of house N° 03 - *Dar Nebia* in *Bab El Hadid*. (source: the authors).

floors, without modifying the principle based on the spaces which are articulated around the court. (ANAT, 2001: 35).

The Access is from an impasse, marked by a massive wooden door with two knockers (*Tabtaba*). The entrance, a chicane vestibule (*skifa*) covered with groin vaults opens onto a quadrangular patio. This one is the central core around which the different spaces are articulated, it is surrounded on all four sides by a gallery (*Darbouz*), a horizontal circulation space, providing access to the different rooms. All the openings in these rooms look out on the patio. Windows overlooking the patio are rectangular in shape. The doors of the interior rooms are made of wood with brick broken horseshoe arches. The house has two levels, the spaces on the lower level are: *Beyt El maà* (Bath room, toilet), *ghorfa* (Living room), *Biyt lagaàd* (siting room), *Bouiyta* (small bedroom), and *El Makhzen* (a space divided into two parts, the first part reserved for the storage and preservation of supplies and the

second part serves as a kitchen equipped with a fireplace) (Fig. 9). To go upstairs, take the made of bricks with mortared lime covered with terracotta located at the back of the house. The first floor has an event room (*Beyt el wlayem*), a kitchen with a fireplace, a coal room (*Beyt el Feham*) with a fireplace, it serves as an oven, where bread, pastries, etc., a storage room with a wooden frame, a toilet and a large terrace (*Stah*) with a guardrail which overlooks the patio (Fig. 10).

The supporting structure of the house is a solid brick supporting wall type, 40 cm thick, with an interior and exterior coating in lime-based mortar, the columns are in marble having a purely decorative function. The floor of the house is brick vaulted; the storage room has a wooden frame.

The materials used in construction are local materials: Solid brick, lime-based coatings, terracotta, colored paving, tiles, marble, paving is in colored ceramic tiles. (Fig. 11).

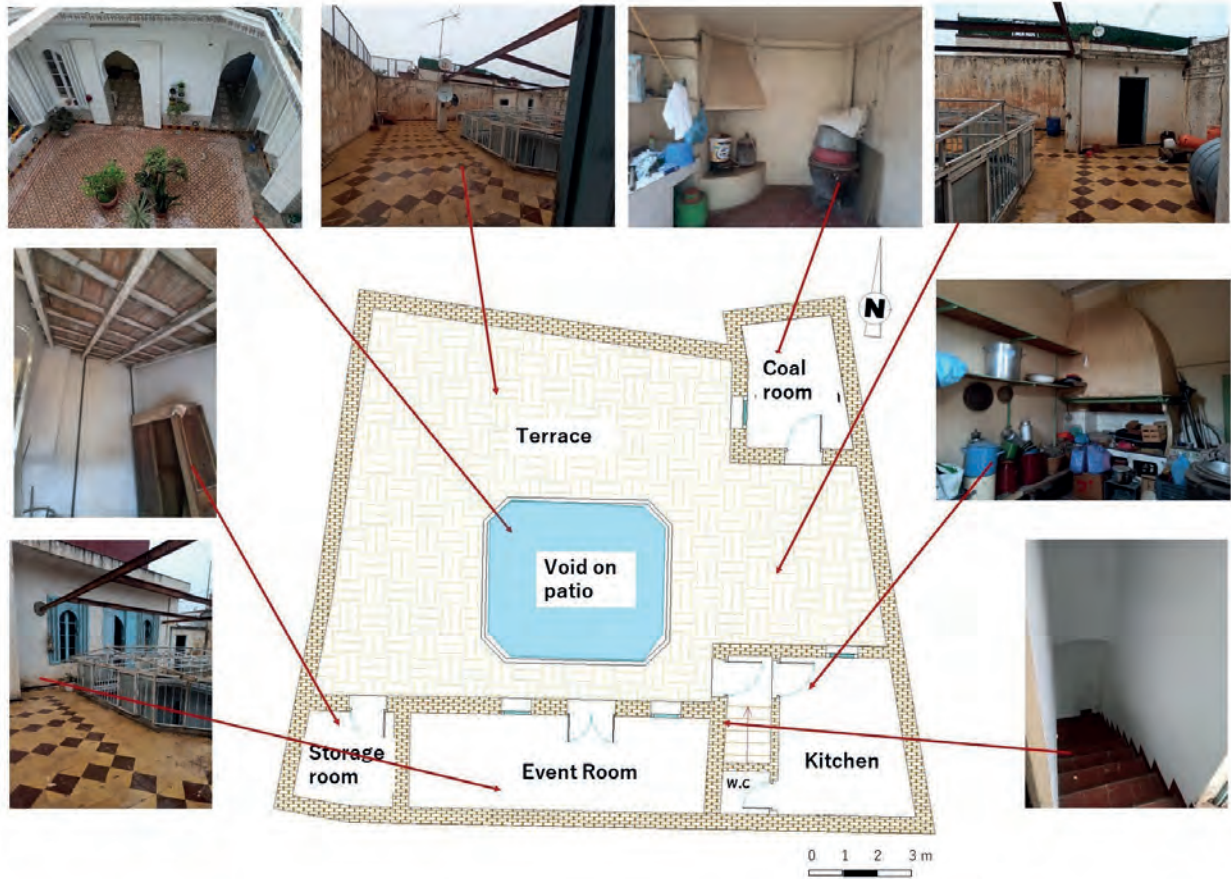


Fig. 10. first floor of house N°03 - *Dar Nebia* in *Bab El Hadid*. (source: the authors).

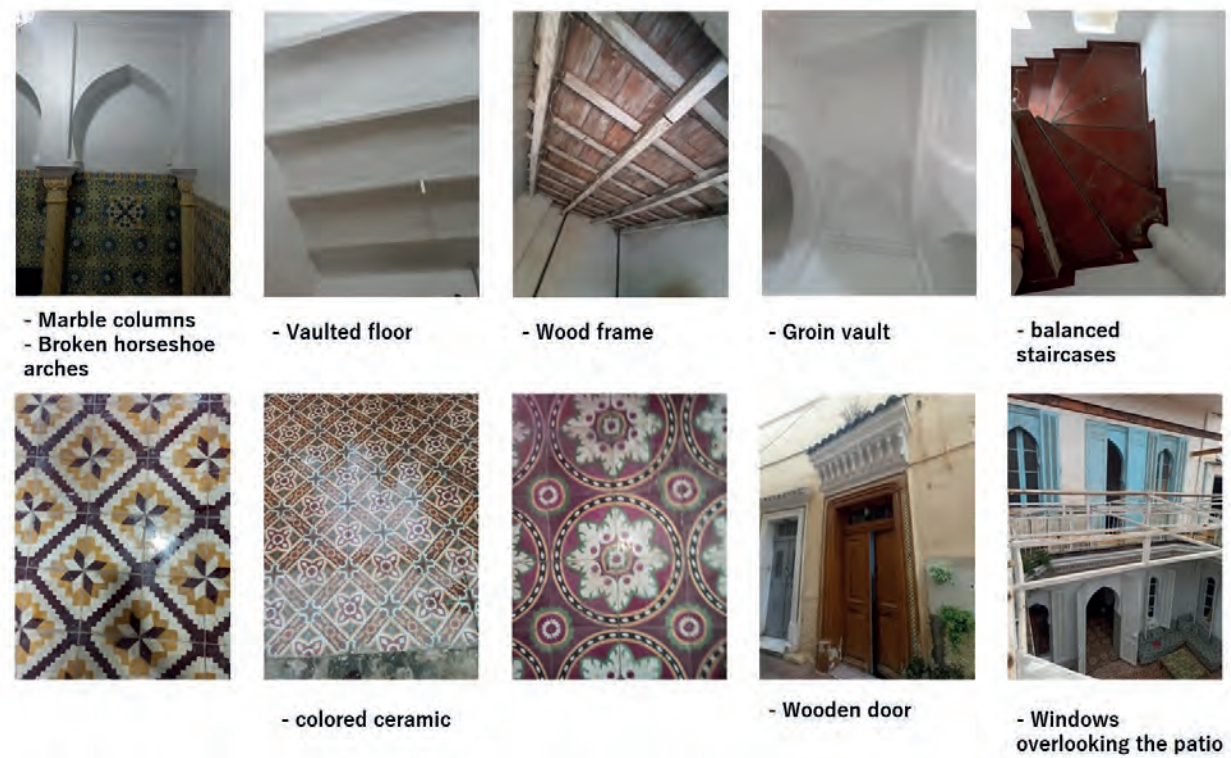


Fig. 11. House construction elements and processes (source: the authors).

4. THE COLONIAL VILLA IN TLEMCCEN, A NEW ARCHITECTURE

The colonial villa is a model of individual housing located in neighborhoods newly created by colonization, in the extramural zone. It can also be found in the intramural, where the French administration demolished and transformed traditional houses. It represents the antinomy of the traditional house of the Medina.

In the collective thought, the colonial house in Algeria evokes a large, comfortable and luxurious dwellings (Boutabba et al., 2014: 277). Inspired by the European pavilion, it is open to the outside. The house has one or two storeys, and takes in the air and light from its garden, often with a pitched roof covered in tile or slate. The colonial villa is made up of two distinct parts, the first of which is covered and known as the main building. (Boutabba et al., 2014: 279). It accommodates the living room, the kitchen, the garage, the bedrooms and bathroom, and possibly a veranda. The other part is uncovered and consists of the gardens and courtyard.

Depending on the position of the building in relation to its garden, and the neighboring villas, there are four types of colonial villa in Tlemccen, whether in the Medina or outside in the new districts such as *Bel Air* and *Beau Séjour*. The first is aligned house on street, known as the house on the street. Access is directly from the street, and the house has a back courtyard. The second is retreated house between the garden on the street

side and the courtyard at the back of the plot. A boundary wall no more than 1.50 m high helps to create a link between public and private spaces and showcases the wealth of the house and its owners: the house with three or four facades, the villa surrounded by its garden, and the house with a garage (Fig. 12). This typology expresses the standing of the house: the fewer neighboring buildings, the standing is higher.

During the beginning of twentieth century, the world knew technical and technological progress that affected all fields: education, culture, economy, agriculture, tourism and also urban planning and architecture, which “saw a gradual shift from neo-Moorish and neo-classical architecture in general towards a new paradigm inspired by the Mediterranean. This paradigm in turn called for modernism thanks to the appearance of new construction techniques and materials, in particular reinforced concrete, steel and glass favored by the concept of international architecture” (Ben-Hamouche, 2018: 174)

The load-bearing structure of colonial villas in Tlemccen is defined by supporting walls and pillars. There are two types of load-bearing walls: brick load-bearing walls and stone load-bearing walls. Brick load-bearing walls are 50 cm thick, with different patterns consolidated by a varied choice of elements, corner chains, vertical chains, discharge arches, rectilinear bracing elements (wood, metal) and tie-rods (Ouadah, 2016: 65). The load-bearing stone walls are



Fig. 12. Typology of colonial individual houses in Tlemccen (source: the authors).

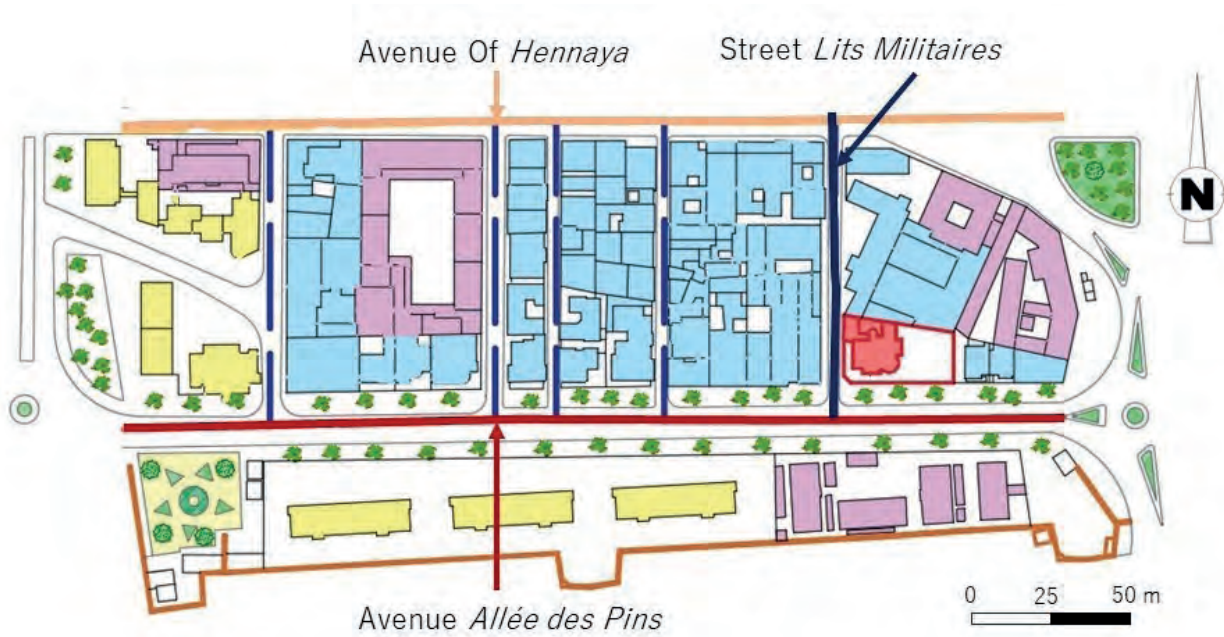


Fig. 13. Plan of Avenue Allée des pins. (source: the authors).

between 60 cm and 80 cm thick. The pillars are square support elements made of masonry bricks measuring between 25 cm and 40 cm. During colonial period, the use of industrialized and prefabricated elements for the construction of horizontal structures developed in Algeria. In Tlemcen, there are two types: mixed floors with metal beams and vault bricks supported by metal beams IPN, and roofs with traditional wood frame trusses and rafters, covered in tiles. Depending on their pitch, there is a double-pitched roof and a single-pitched roof with a *combe* above. When the house has two storeys, the staircase is located next to the entrance, it can be straight or with balanced steps in brick and concrete, and the guardrail is made of wrought iron.

During the colonial era, the construction of individual houses opted for the use of local materials such as stone, ceramics and western brick imported from France, the thickness of which varied from 4 cm to 20 cm. In the early days of colonization, fir wood imported from France was used for framework construction. From the end of the ninth century, the French government decided to exploit local wood, such as the cedar found in the forests of Batna (Ouadah, 2016: 60). The use of iron knew a considerable development, and was used for the construction of metal sections and wrought iron for decoration.

4.1 AVENUE L'ALLEE DES PINS, COLONIAL CREATION

L'Allée des Pins, a colonial avenue created in 1907³, and designed for bourgeoisie residential use, is located in the south of the Medina of Tlemcen (Fig. 1). It is parallel to the battlements and the large basin (the *Zianid* garden), which borders it from the south. From the north, it is bounded by the avenue of *Hennaya*, to the East by the gate of Fes and to the West by the gate of Oran. (Fig. 13).

4.2 THE VILLA THE MOGHRÉBINE IN AVENUE L'ALLER DES PINS – HOUSE N° 06

The Moghrébine is the name given to this villa by the French architect Montaland. The choice of this name is neither an unconscious coincidence, nor a look for the marvelous or the picturesque of architects during the colonial period. It was undoubtedly the result of a great thought and an important study of history, culture, civilization and architecture of the Maghreb. The interior space of the villa reveals and expresses a homogeneous technical, architectural and aesthetic combination.

³ According to *La Tafna* (that era daily newspaper) of February 13, 1907, "The Mayor of Tlemcen informs the public that the project to modify the city alignment and levelling plan, with regard to the alignments of the Allée des Pins Avenue, will be deposited at the town hall for a full fortnight, from 14 to 28 February inclusive, so that all residents can take note of it and make any observations they judge". (Tahar, 2015: 168).



Fig. 14. The defining elements of Maghrebian architecture- on the left wall-mounted water fountain, on the right: a fireside. (source: the authors).

The architect Montaland was able to combine this architectural Maghrebinity through his choice of Algerian, Moroccan and Tunisian shapes, structural elements and colors. We can see this in two majestic paintings, the first in the garden and the second in the form of a fireside (Fig. 14). They are characterized by the use of geometric and floral mosaics inspired by the architecture of the Islamic dynasties of the Maghreb: The Hafsids in Tunisia, the Merinids in Morocco and the Zianides and Ottomans in Algeria. The arches used are also inspired by these different architectural styles. The fountain in the center of the garden, in the shape of a star covered in ceramic, inspired from Islamic architecture. This is what gave this villa an architectural, aesthetic, historical and cultural value very rich and significant.

In addition to being the villa that gathered and represented the architectural styles of the Maghreb, the villa is also known for being the first individual house in Tlemcen in which reinforced concrete is used in 1937.

The Moghrébine villa is located in the avenue allée des pins, designed in 1936 by the French architect Charles Montaland,⁴

⁴ Architect for the *Philippeville* town hall (Algeria) from 1905 to 1915, then named architect for the General Government, assigned to the Indigenous School Construction Department (where he worked for nine years). Appointed architect for schools in Algeria. Deputy Inspector General in the Algerian Architecture Department, replaced Henri Petit in 1936.

for Mr Vallaur.⁵ It is located at the corner of the avenue *Allée des Pins* and the street *Lits Militaires*, which borders it from the south and west. From its north and east, there are other villas and the *Medersa* (Franco-Muslim high school), which is today a museum of Islamic remains, (Fig. 15). After independence, the current owners slightly transformed the house without altering its original state. The built area is 331 m² on 790 m² plot.

The villa has three facades and two levels, the ground floor and the first floor, with a basement and an accessible terrace. The palisade of 1 m high is on both streets separates the public space, which is the street, from the semi-private space, which is the garden. It is made up of two parts: the lower part is built of brick masonry, and the upper part is a metal fence. The main access to the villa is from the avenues *Allée des Pins*, while the service access, the access to the office, the garage and the access to the keeper's lodge are from the street des *Lits Militaires*. (Fig. 16).

⁵ Born in Sidi-Bel-Abbes (Algeria) in 1882, died in Tlemcen in 1963; teacher, then lawyer, then colonial administrator and prefect, radical-socialist who switched to the SFIO, general councillor for Tlemcen (1926-1945), vice-president of the General Council, mayor of Tlemcen (1928-1940 and in 1945), author of the reform plan adopted by General De Gaulle in the decree of March, 8th, 1944, elected to the right as an independent Republican in 1948 to the Algerian Assembly, where he served until it was dissolved during the war of independence.



Fig. 15. Location of Villa the Moghrebine. (source: the authors).

The garden is half planted with trees and half in grey marble, with a fountain in the center in the shape of an eight-pointed star set in a square.

Also known as the star of Andalusia, it was often featured in the architectural decor of Al-Andalus, a symbol that was widespread in Islamic architecture, and more widely later on Arab-Muslim world. Surrounded by concrete benches, the whole is covered in mosaic inspired by the *Tachfinia Medersa* and the *El Mechouar* palace in Tlemcen. At the bottom of the garden there is a wall-mounted water fountain, covered in a ceramic mosaic with floral and geometric motifs evoking Islamic architecture in the Maghreb. Water is supplied by a well water in the garden (Fig. 16).

The entrance to the villa is marked by a large wooden door with a knocker, opening onto a large hall, a central space around which the various rooms are arranged, inspired by the patio of Islamic architecture. The hall features a fire corner (a large fireplace) that stands opposite the entrance door, a typical feature of Maghrebian architecture. (Fig. 17)

The ground floor comprises a large circular open-space living-room with poly-lobed arches and a ceiling decorated with rosettes and plaster sculptures. It is in direct contact with the garden

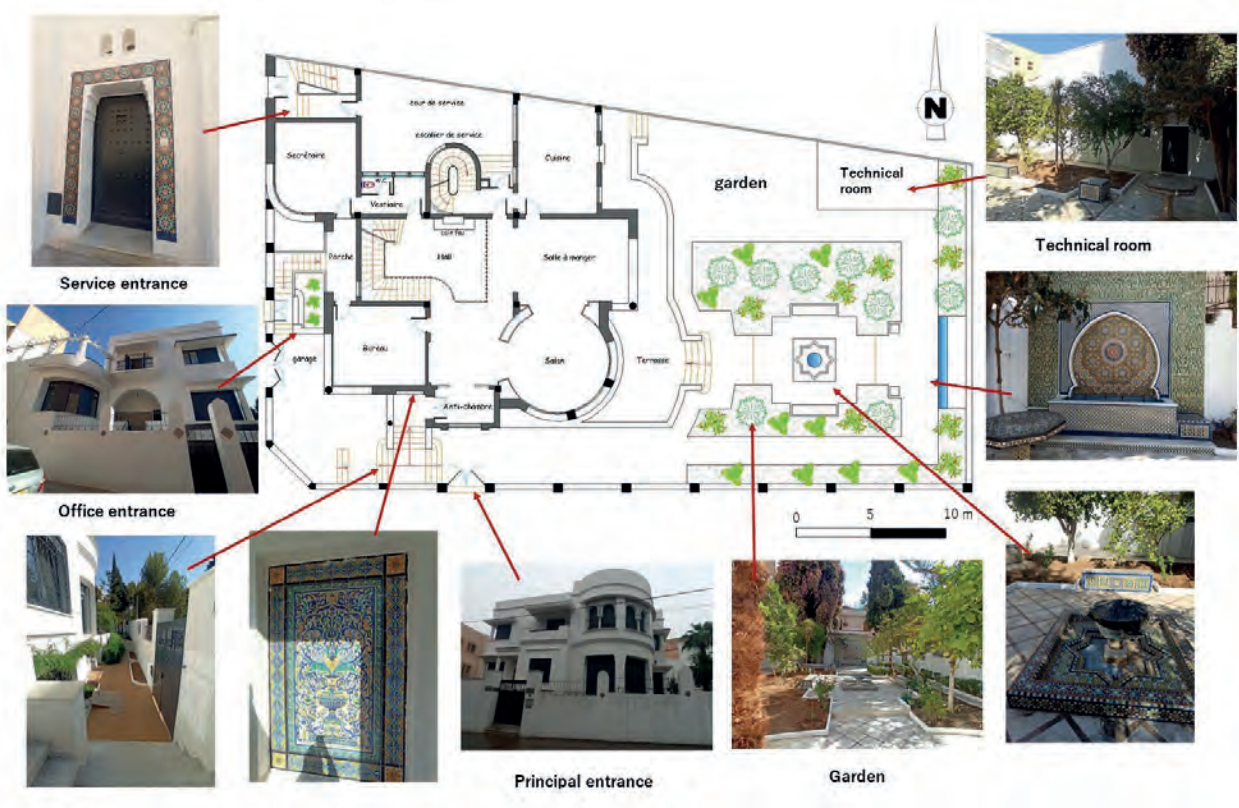


Fig. 16. Ground floor plan of the villa The Moghrebine. (source: archive of APC of Tlemcen developed by the authors).

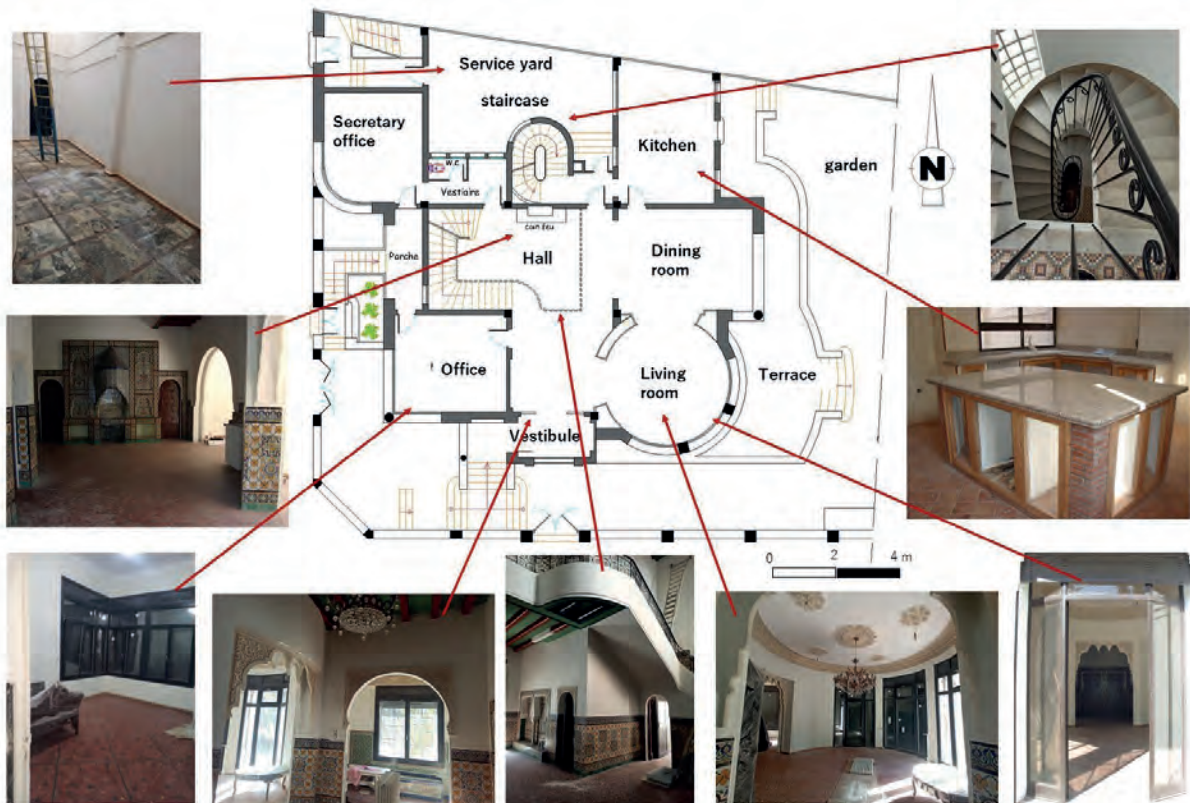


Fig. 17. Ground floor plan of the villa The Moghrébine. (source: archive of APC of Tlemcen developed by the authors).

via large bay windows and opens onto the dining room, which is in direct contact with the kitchen, which overlooks the entrance garden on the east side. The service entrance opens onto the service courtyard, which leads to the kitchen and to the glass brick wall service staircase leading up from the basement of the keeper's lodge to the terrace, a balanced staircase clad in grey marble. The office entrance opens onto a porch that serves the master's office and the secretary's office, as well as the bathroom and toilet. All the interior doors are wooden arched doors, that type is semicircular arche (Fig. 17).

To go upstairs, you take a large balanced staircase in the center of the house, with grey marble steps and colored ceramic risers, and a wrought-iron balustrade. The first floor has a gallery overlooking the hall and leading to the three bedrooms, a terrace, a common bathroom with a laundry area and each bedroom has its own bathroom, toilet and wardrobe (Fig. 18). The two staircases: the service staircase and the main staircase lead to a large terrace that includes a laundry room.

The load-bearing structure of the house is made up of reinforced concrete posts and beams, while the wall is made up of a reinforced concrete veil and brickwork, 40 cm thick, with interior and exterior cement-based mortar. The twisted marble columns are purely decorative. The floor is a solid slab of reinforced concrete with wooden beams, decorated on the inside with plaster elements. The central hall at terrace level is covered by a four-hipped wooden roof structure covered in beige tiles, with small windows to provide light (Fig. 19). The materials used in the construction are local: solid brick, cement-based plaster, plaster, colored paving, tiles, marble, and colored ceramic tiles. When these materials were not available, imported materials from France were used.

Designed for Valleur family, the Moghrébine villa adopts some features of the 19th-century Haussmann bourgeois apartment plan, which was influenced by the 17th - and 18th century mansion (Moley, 1999: 19). It features representative rooms (dining, living, vestibule) that open onto a garden similar to the honor courtyard of French private



Fig. 18. First floor plan of the villa The Moghrébine. (source: archive of APC of Tlemcen developed by the authors).



- Marble columns
- arches

- floor

- balanced staircases

- Wood frame

- glass bloc

- Wooden door

- colored ceramic

Fig. 19. house construction elements and processes (source: the authors).

mansions. Alongside the noble part of the villa are the service rooms, with a separate space marked by different staircases: the main staircase and the servants staircase linking their areas to the Valeur family bedrooms upstairs. While the main is highlighted by its position in the plan, its size and its balanced shape, the latter is tucked away in an alcove out of sight. The Moghrebine villa is a hybrid type, with a Maghrebian appearance thanks to its ornamentation, its spatial organization and the construction techniques used, far removed from the traditional house “Dar” of the Medina, are largely influenced by French know-how and lifestyle.

CONCLUSION

The analysis of the traditional individual houses at *Bab El Hadid* and the colonial villa at avenue *l'Allée des Pins* enabled us to determine the characteristics of each one of them, the similarities and the differences. From the point of view of spatial organization and inhabitant's practices, we can say that each of the two houses replies to the needs of its users. The first is a patio house designed for an extended conservative Muslim family, and the second for a nuclear European family living in Algeria. In terms of construction, the traditional house is based on the skills of craftsmen and the *Maâllem* (apprenticeship

masters), using local materials, unlike the colonial house, which has benefited from modern technical processes and industrialization with the introduction of new materials.

Each house reflects a particular lifestyle and construction technique, as well as an urban fabric with opposing characteristics. The compact, dense fabric of the Medina, with its narrow streets and impasses (*derb, drouba*), gave rise to the introverted *west eddar* house, contiguous to its neighboring buildings. In contrast, the airy colonial fabric, with its tree-lined streets and avenues, led to the construction of colonial villas and houses that opened onto the street and featured rooms different from those of the traditional house, reflecting a different way of experiencing domestic space.

After the Algeria independence in 1962, The housing property assets offered a wide variety of housing, both individual and collective. During the 1970s, when Algerian families built their houses, they adopted a plan and a style similar to the colonial villa (Mouaziz-Bouchentouf, 2022). As a result, the traditional house built until the middle of the 19th century, which is no longer reproduced is a precious heritage to be preserved just as much as the colonial villa, as both of them witness to Tlemcen's rich history.

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