



The Lebanese House “Shemlan”

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Project 2 – Lebanese Residential House
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LEBANON is one of the world's oldest countries. The main concept behind Lebanese residential architecture, is its deep-rooted connection and harmony with nature.

The first houses were built with simplicity and proportions, a mirror that reflects the inhabitants' way of life.

Lebanese people took special care of the land they owned and lived from it.

It's a non-sophisticated architecture, made from stone and wood, rigid and unbending to the passing of time, and until today these houses still stand in their grounds firmly and steadfast, like the cedars of the country.



Influencing Factors on Lebanese House Geography Climate

The wide range of altitudes has introduced varied landscape which led to foreign powers to undertake large-scale architectural enterprises, but these are all of foreign origin. Pure Lebanese architecture was mostly done for residential constructions and for modest religious and public buildings.



Beiteddine Palace
(1840) -Governmental
building for the Ottomans
(1943) – President's official
summer residence



Lebanon's climate can be characterized as warm-moderate, which makes it suitable for settlement.

Enjoys four seasons during the year:

1. Rainy winters with snowfall.
2. Early spring with the last rainfall.
3. Four hot and dry summer months.
4. Moderate autumn with little precipitation.

Geology and Natural Building Materials

70% of the Lebanese territory is composed of carbonate rocks formed between the middle of the Jurassic and Eocene periods, with limestone and sandstone the Jurassic period also being present in some areas, especially in the mountain . In the north of Lebanon we find large deposits of basalt in a previously volcanic region.



Basalt rock

Lebanon consists of many valleys and gorges, which led to the availability of geologic strata, and the accessibility to use varying types of stone in buildings.

In Beqaa they used clay and water in combination with a dry climate helps in constructing mud brick (adobe) buildings.



EXPLANATION OF ROCKS



Basalt Rock

- **Basalt is a permeable igneous rock resulting from the rapid cooling of low-viscosity lava rich in magnesium and iron. More than 90% of the igneous rocks on Earth are basalts.**

Sandstone Rock

- **sandstone is a clayey sedimentary rock composed primarily of sand-sized grains of silicate. Sandstones make up about 20-25% of all sedimentary rocks. Most sandstone is composed of quartz or feldspar because they are the two most weathered minerals on Earth's surface.**

Mud brick Rock

- **A mudbrick or mud-brick is an air-dried brick, made of a mixture of loam, mud, sand and water mixed with a binding material such as rice husks or straw. Mudbricks are known from 9000 BCE, though since 4000 BCE, bricks have also been fired, to increase their strength and durability.**

Socio-Economy

Lebanon had two aspects of living, the first in the cities who relied on trade, and the second in the mountains, who relied on agriculture. Therefore, this mixture affected the method of construction. The agricultural community worked to show the houses in a similar way for their living and for earning their daily livelihood and sustenance. They used the roof in order to dry the mortar and The houses were houses that prevent the cold from the cold of winter in the mountains. They used thick stone, the thickness of which was between 50 and 100, and they had mountain customs and traditions clinging like the man who wears the fez. They attributed it to their house by laying the tiles on the house, and its color was red, similar to the color of the fez



History

The history of Lebanon is a very important history because Lebanon was colonized by many countries, such as the Byzantines, the Romans, the French, and all these countries came and put their touches and engineering in Lebanon, as they imposed their language and civilization on the sovereignty of Lebanon, and each of these colonial countries had a great influence on the way of building, but Despite all this, however, Lebanon preserved its original Arab customs and traditions, so it was inspired by every civilization, but it was the strongest in architecture and preserved their civilization.



Types

1.The Closed Rectangular House



- **A flat-roofed house**
- **Consists of a single square or rectangular space**
- **Low doors**
- **Ventilation Openings below the roof**
- **2 levels of flooring next to the entrance (where shoes and other tools can be kept)**
- **Exterior walls with niches used as storage.**

2.The Gallery House



- The gallery of arcades was made of simple stone. It created a satisfactory aesthetic to the traditional construction, thus the higher the galleries, the wealthier the owner.
- A connecting passageway to the house in the front view.
 - Longer in length than in depth.
 - This type Includes several rooms.
 - The passageway is connected to the entrance of the house.
 - The height of the passageway is the same as the height of the rooms.

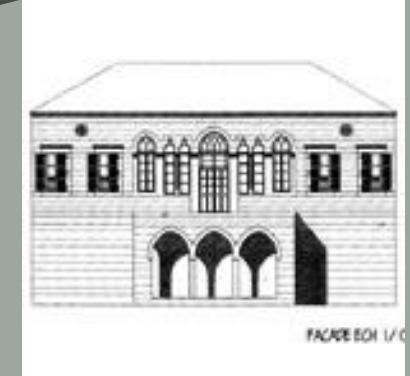
The Liwan House



- The Liwan type is a type of house least found in Lebanon, mainly observed in high mountain region.
- It is a covered space but always open to the outside, with a connection to the frontal space.
- Having an entrance with a vaulted opening.
- A space used for circulation, for social activities, and for storage.
- The orientation of the house view is down the valley.
- Several windows made In the sides offering privacy and openness.
- Normally facades are symmetrical.
- Liwan makes sense in warm climates where it is protected from winds, dust, animal and people.

The Central Hall House

- This architecture typology is a combination of a central space surrounded by a set of other rooms.
- The origin of this design may be the Roman atrium. The central hall called "Dar" is a gathering and living area, which takes advantage of the triple arch façade opening into a mesmerizing view of the natural landscape.
- The access was either directly from the rear or indirectly from the side via a corridor, but never from the front triple arcade. The house often had two floors and a symmetrical composition. It was found in cities as well as villages.
- The shape of the house is simple (square or rectangular) with pointed roof, which makes it possible to be covered with tiling, predominantly red in color. Besides being aesthetically appealing, red tiling would convey the wellbeing of its owner.
- The arcades consisted of a door in the central section and two windows on each side and were unglazed before technology allowed glazing. The central hall would usually have a balcony made of a marble slab and iron railing.
- Cultural and Socio-economical factors affected the transformation of the rectangular window into a triple arched in the central house typology.



Typical facade of a central hall house.

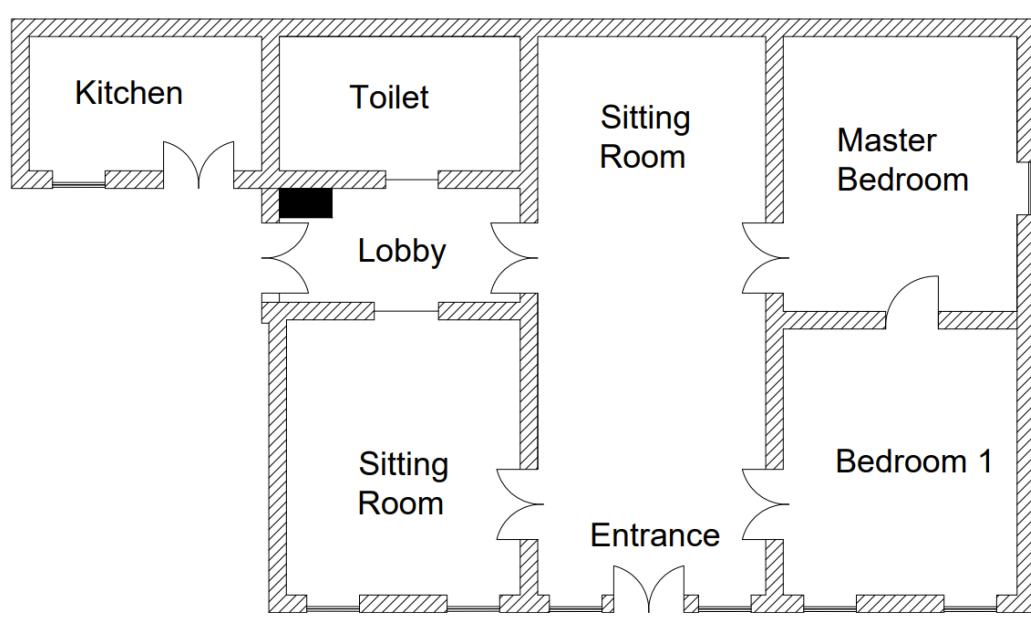
The Combination Type Analysis

It is a mixture of two types of Lebanese houses that contain a mixture of these two styles. The mixture is identical and beautiful, considering all the rights of each of these two types. For example, in this house it is a mixture between a Closed Rectangular House and a Central Hall House. From the outside, it appears to us as a rectangle, and it has a low door with windows and a small window at the top. It has a roof from the top to put the mortar on with the staircase, which is of a Lebanese character, and it has a thick stone that works for heating. The house is warm in the winter and cool in the summer and has a sloping roof. It has a long hallway as a circulation area that divides the house into two parts, separating the bedrooms and the sitting room. From the inside, there are archways used in which rock stone is used.



A Lebanese House located in Shemlan

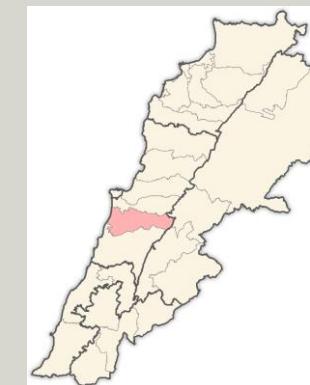
THE PLAN



Typology:

Combination of Closed Rectangular House and a Central Hall House

- A combination of a big central area with a set of rooms.
- Simple Rectangular House Shape.
- The arcades consisted of a door and two windows.
- Ventilation Openings.
- Flat Roof



A village in the
Aley District of
the Mount
Lebanon
Governorate in
Lebanon, located
about 25km from
Beirut.

House Face Directions



North East



South West

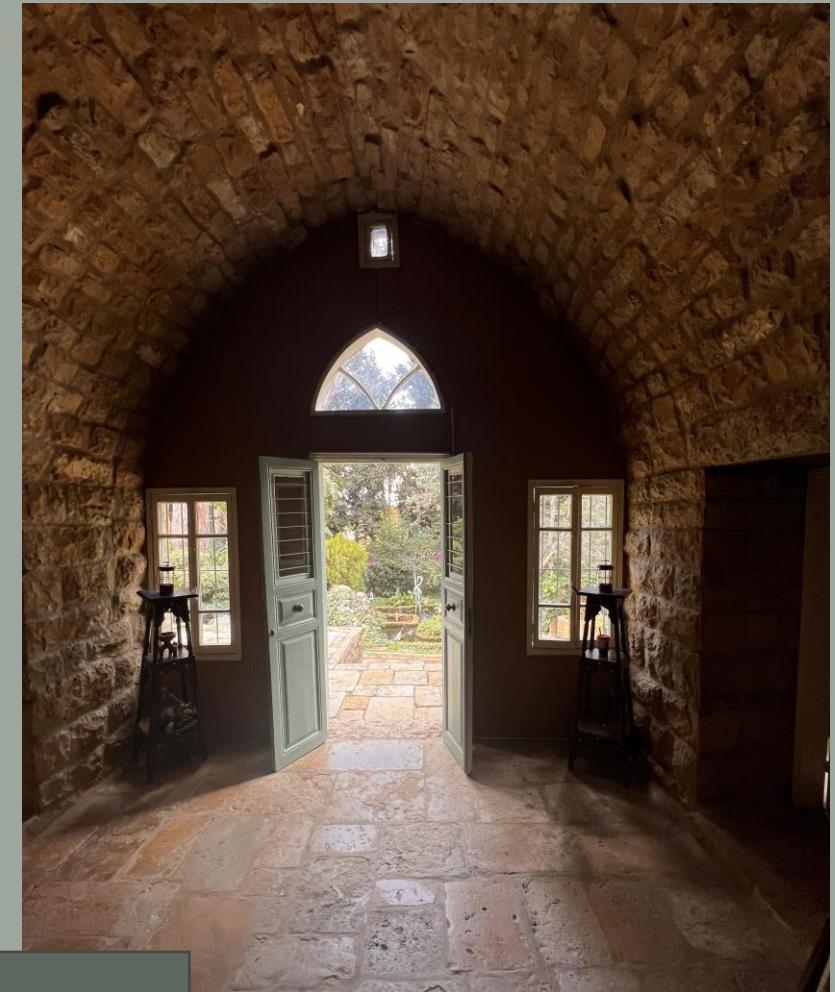
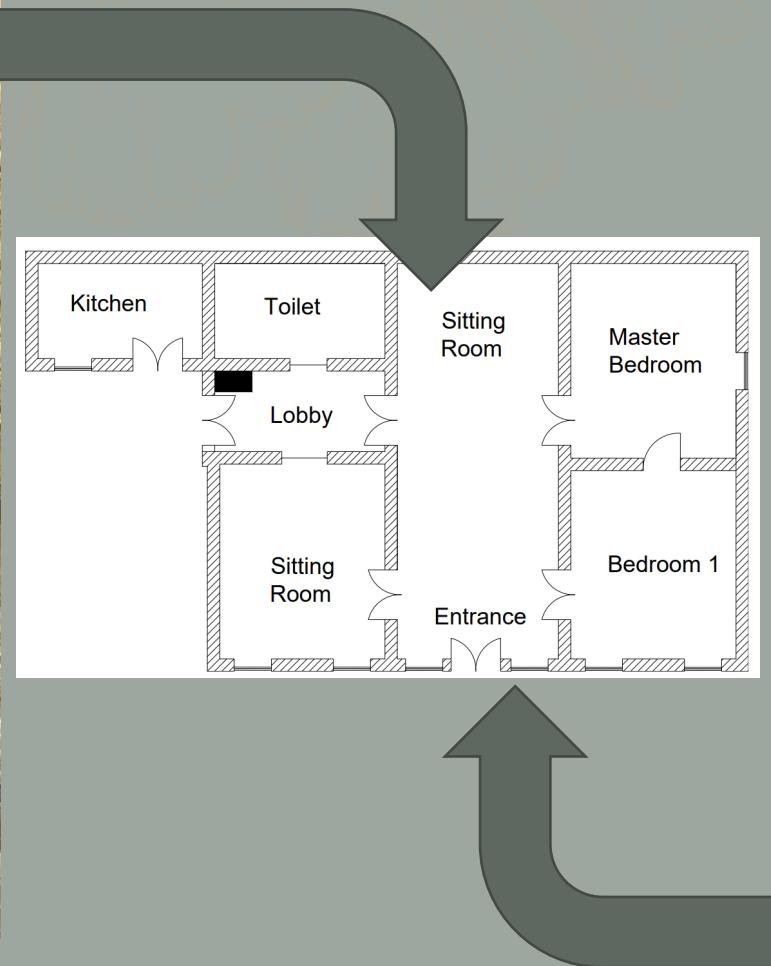
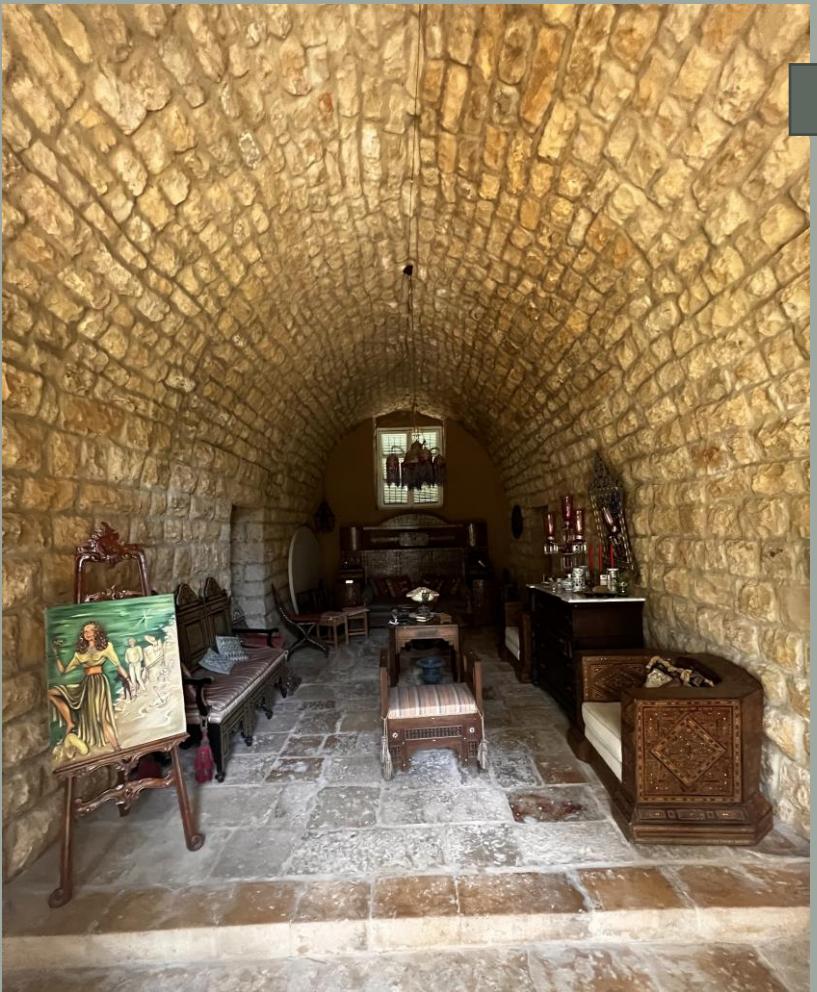


North West

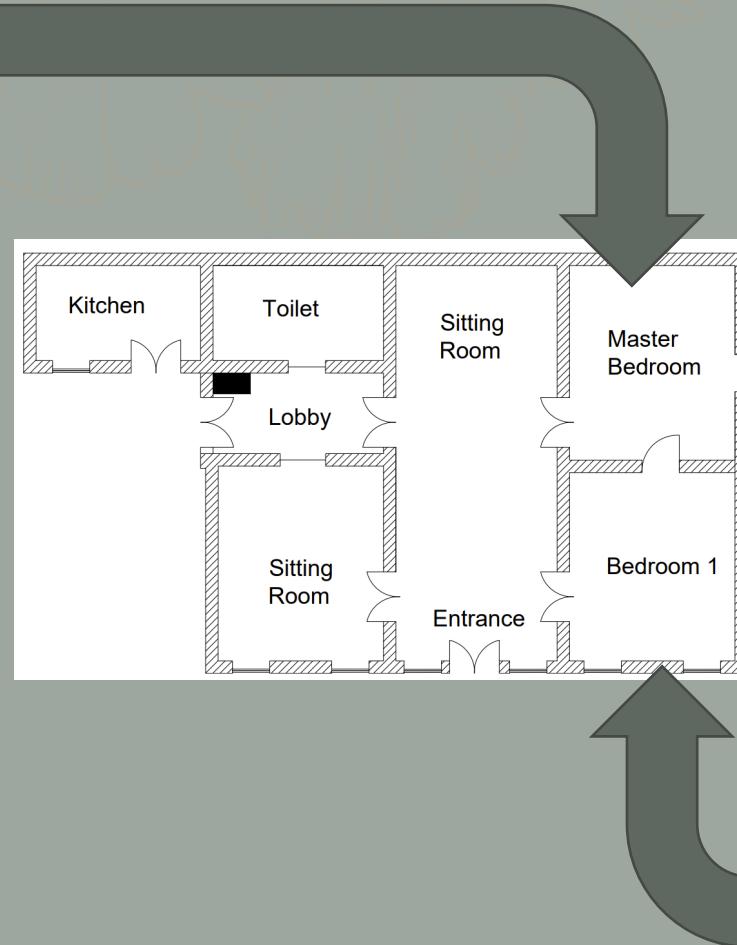


South East

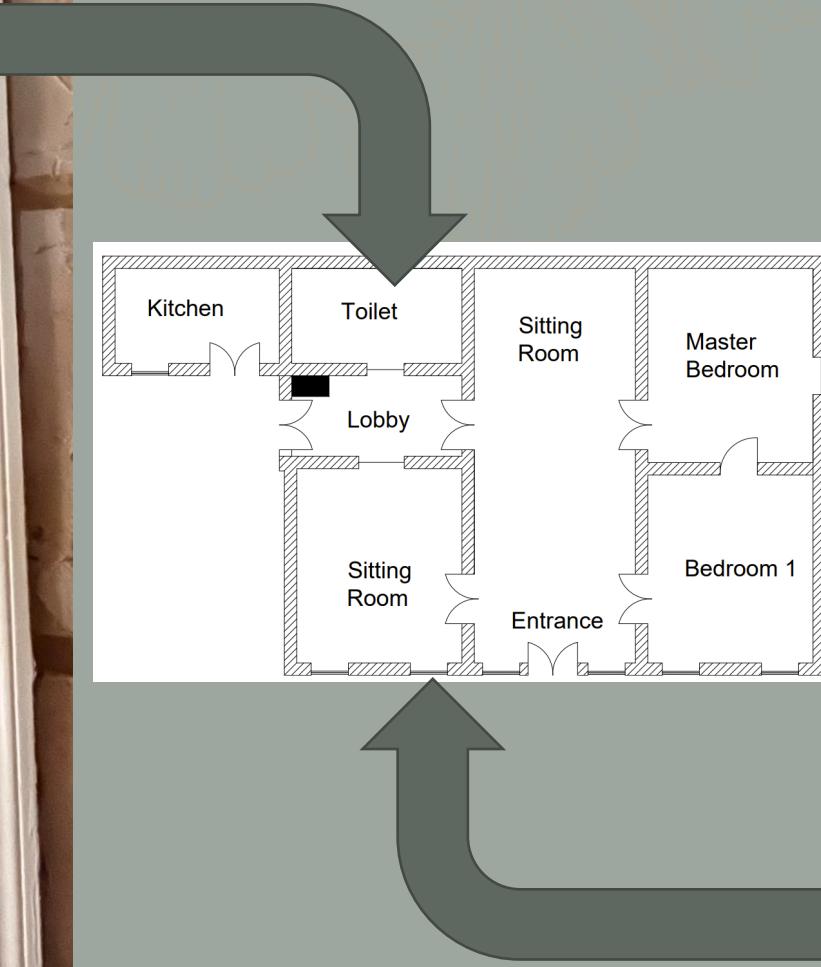
The Circulation Area and Entrance



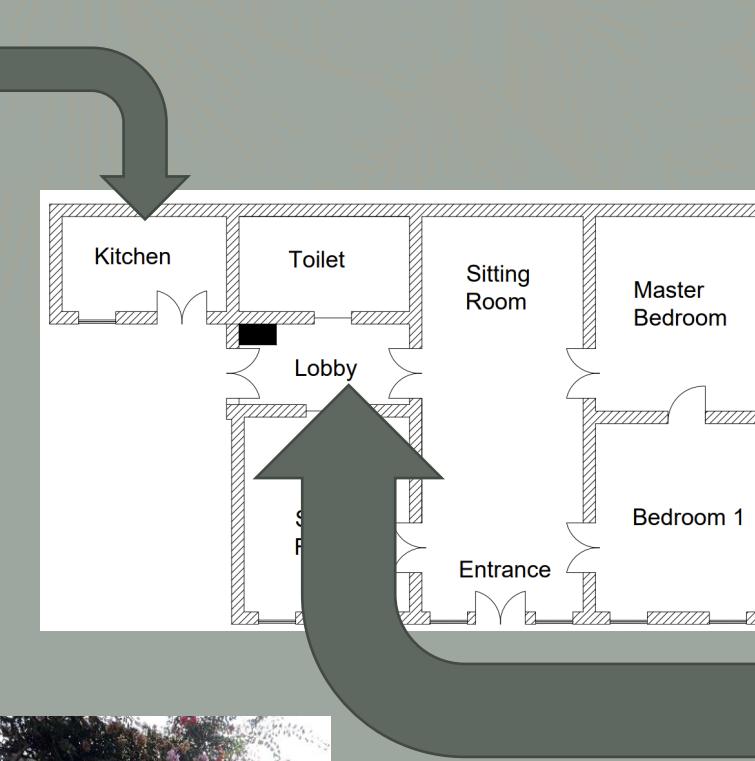
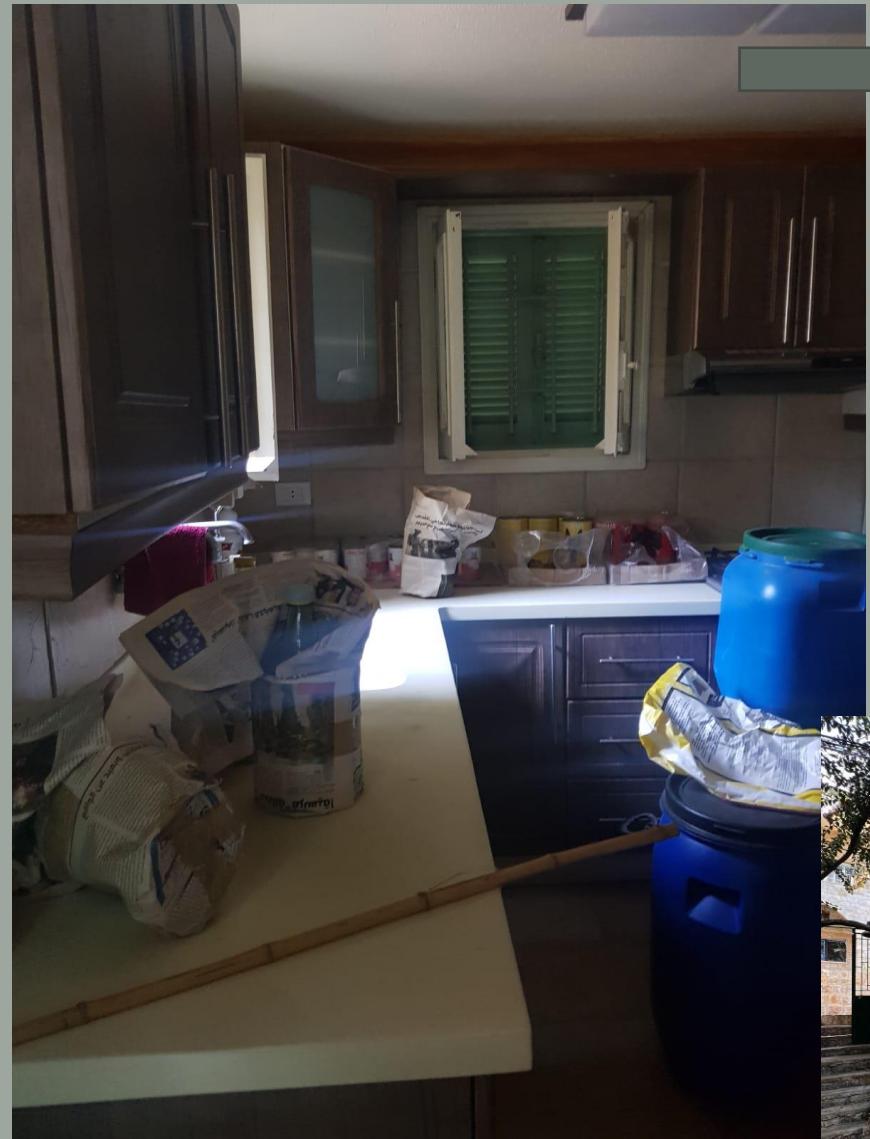
The Bedrooms



The Sitting Area and The Toilet

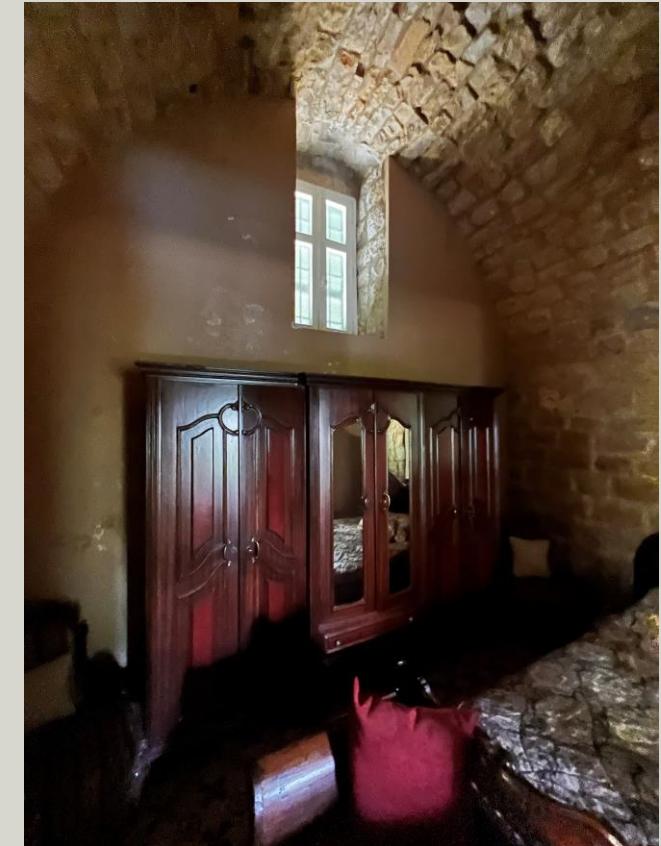


The Kitchen and Lobby



The Kitchen from Outside

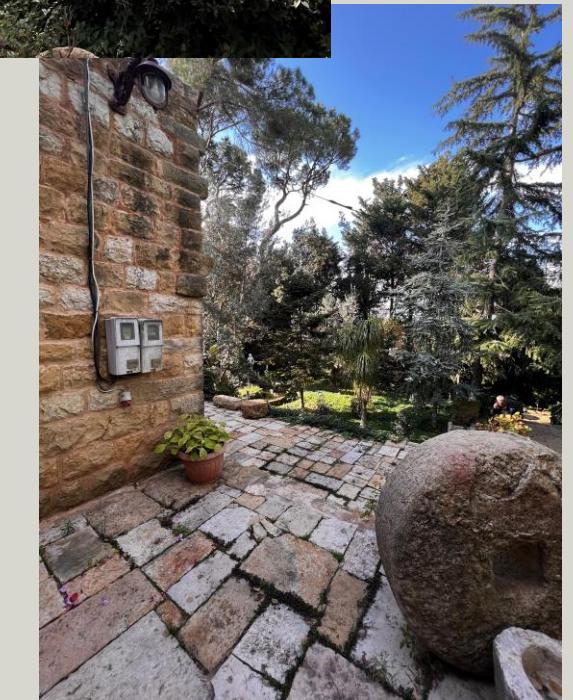
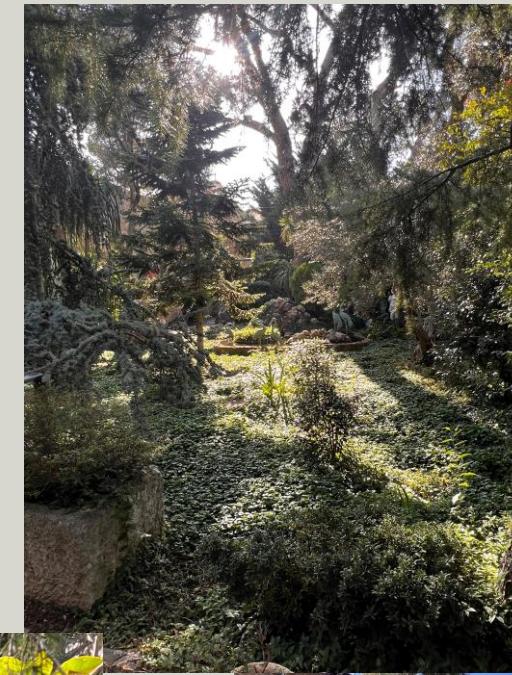
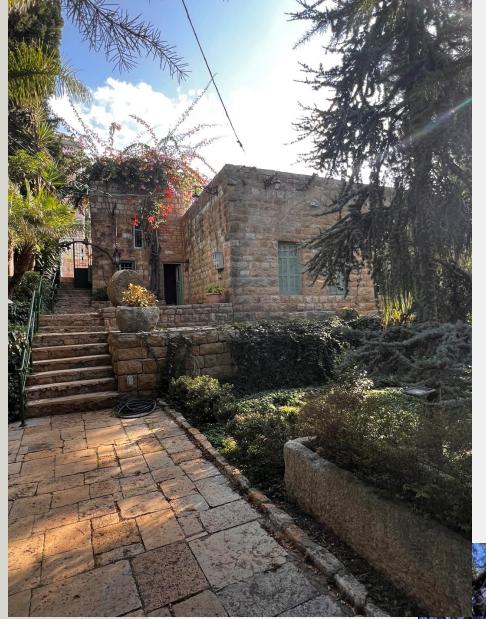
Doors and Windows



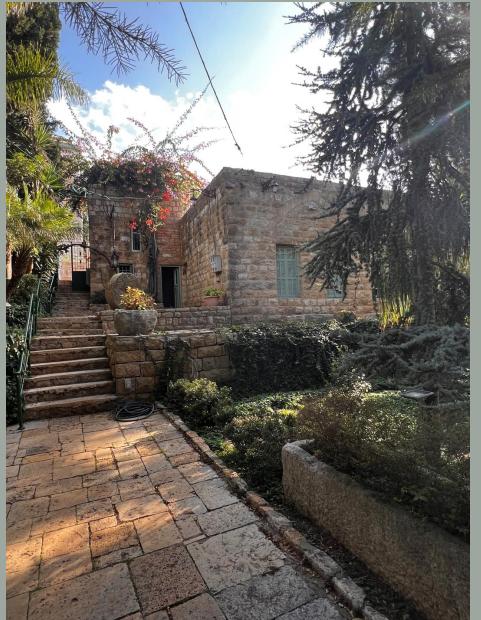
Furniture



Outdoor



Outdoor View

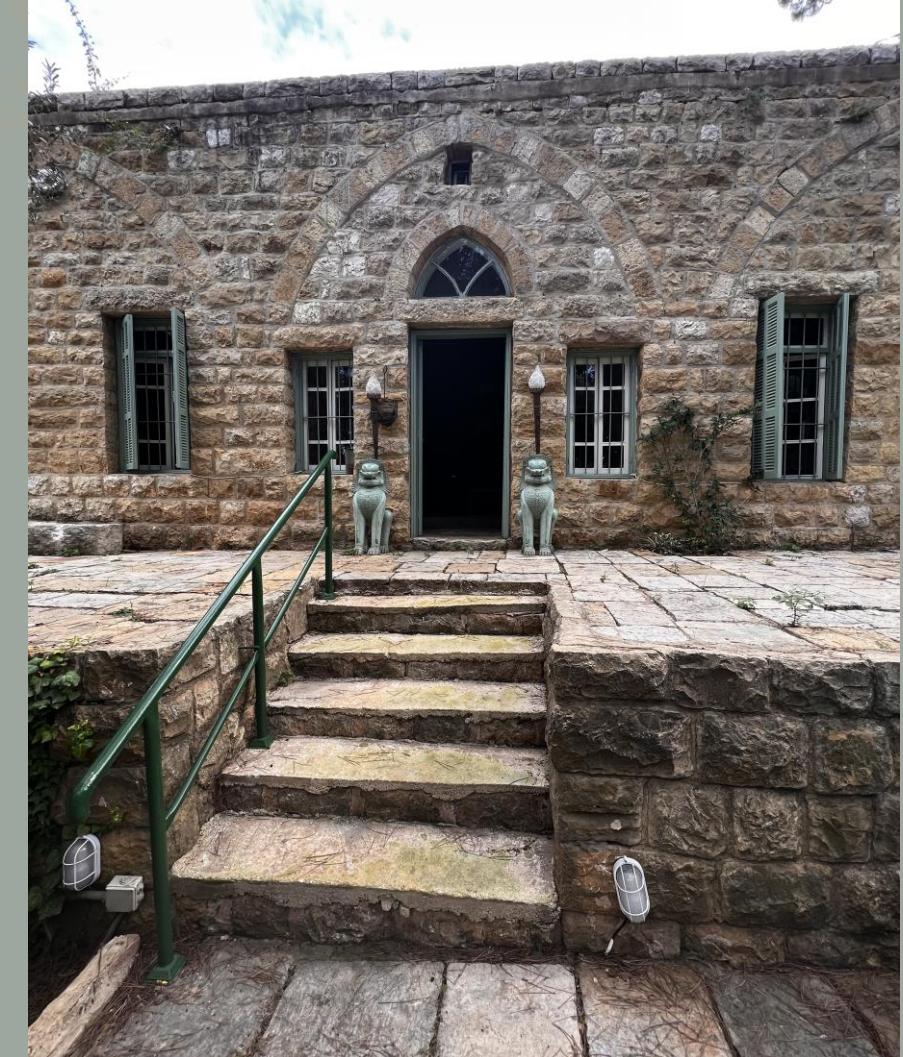


History of The House

This House was established and built by: Melhem Lattouf El Heeti
Today's Owner: Walid El Neouchi

The story was told by one of Melhem's sons:

"My dad passed away when we were still young. He had no brothers, and my mom was still young, so my aunt's husband registered the houses? in my grandmother's name who started selling them. The only house left is the one above the one that you recorded, my grandfather's grandfather took this house in the 1800s, but after the civil war we lost everything. The tiles are old and drawn by hand and treated by fire and some mosaic. There are also pillars like in Baalbak. The ceiling is 4 to 5 meters high. When we came back after the war the bathroom was outside. Then they sold it back to us".



Credits

PowerPoint:

1. Influencing Factors: By Rawand Silwadi
2. Types of Houses: By Pauline Hayayan
3. 2nd part of the PowerPoint (the plan): By Rawand & Pauline via Google Meet.

The House:

1. Found & coordinated with owners by Rawand Silwadi
2. Dimensions taken by Rawand Silwadi
3. Dimensions written by Pauline Hayayan
4. Plan CAD by Pauline Hayayan
5. Video captured by Rawand Silwadi & Pauline Hayayan
6. Editing by Rawand Silwadi & Pauline Hayayan

Interview with Al Mukhtar - Ghassan Hetti

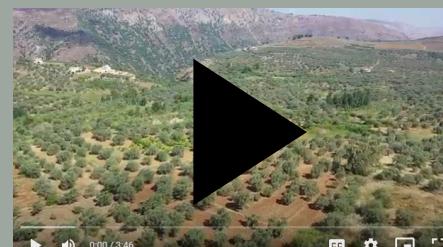
Interview By Rawand Silwadi

Video By Pauline Hayayan

References

<https://www.re-thinkingthefuture.com/city-and-architecture/a5610-an-overview-of-lebanese-architecture/>

The Book: Architecture in Lebanon
By Friedrich Ragette



[Link to The Traditional House Video](#)