SYNTHESIS

In Lebanon, the house with three arches appeared in the second half of the 19th-century. It is a typical middle-class, bourgeois house. Its characteristics belong to Ottoman modernity: overall outside appearance, industrial materials used, and urban rules and regulations followed.

This typology is made up of several dwelling rooms, organized around a large central hall or room. The back of this large room contains a typical element called liwan. This room is often protruding and is usually a living room. The front of this main room has a usually decorated three arch window, opening onto a narrow balcony and a garden, on a street or a landscape. This decorative element makes the model specific and differs from the Beirut model of another typology of houses with central hall that appeared in the Middle East, at the same period. The rooms are found on each side. The kitchen and toilets are usually on the eastern side.

The size, inside decoration and location of the house are related to the means of its owner. But the archetype has a private garden. The house usually has one or two floors and is called bayt. The tallest houses are called harat. Houses that have two apartments per floor are called wikalat. Aristocratic homes have towers, porches and other outstanding features. In mountain environment, these homes can also include a kiosk, riwaq and mandaloun.

The origin of this house is Beirut: from there it spread throughout Lebanon. Is considered as a most typical Lebanese house by the population.

ANALYTICAL GROUP OF THE TYPOLOGY

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<th>Urban (Environment)</th>
<th>Single/grouped (Implantation)</th>
<th>Fixed (Character)</th>
<th>Permanent (Origin)</th>
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FORMS OF THE TYPOLOGY

- Typical plan
- Gallery plan
- Loqia plan + projecting iwan
- Projecting plan

INVENTORY OF THE COUNTRY’S TYPOLOGIES

- Troglodyte house
- Shepard shelter
- Nomadic habitat
- Basic house
- Iwan house
- Riwaq house
- Three-arch house
- Court house

This project is financed by the MEDA programme of the European Union. The opinions expressed in the present document do not necessarily reflect the position of the European Union or of its Member States.
**Implantation**
This typology is usually built in a private garden. In the heart of cities or mountain towns it is sometimes even found in the heart of souks, built above and older structure and flanked to other houses.

**Use/associated activity**
Dwelling only.

**Dating**
This type first appeared in Beirut around 1860 and developed in its Ottoman version until about 1930.

**Altitude**
This house is found everywhere from sea level up to a height of about 1700 meters.

**Orientation**
The preferred orientation is north. Otherwise, the house opens onto the Valley or seafront.

**Ground surface covered**
This house usually covers 1/5 of the property or plot. In very dense cities, it can cover up to 100% of the area.

**Surface area of housing**
100 to 250 m².

**Number of floors**
From 1 to 3 maximum.

**Number of homes**
From 1 to 3 maximum.

**Number of families**
From 1 to 3 maximum.

**Average number of members per family**
4 to 8 people at the end of the 19th-century.
Functional outline
The bedrooms are organized on each side of the main room. One of these rooms, near the entrance, is used to welcome guests. The large main room is where the family and guests gather. In the back, the liwan is a winter living room. The kitchen and toilets are always on the east side. This position is linked to the direction of dominant winds, Southwest and Northeast that helped evacuate moisture and smells. Every room has large windows to enjoy the panorama (Mountain view, valley or seafront views.)
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One or more long balconies, generally with an arcade can flank one or more façades.
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A Loggia with a sheltered terrace, or an open area, is where the family spends most of the day and entertains hosts during the hot months of the year.

The protruding liwan is an extension of the winter living room.
**Functional outline**

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Every room has large windows to enjoy the panorama (Mountain view, valley or seafront views.)

The three protruding arches are an extension of the central hall: they broaden the view an architectural scope.
Functional outline
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Harat in Beyrouth
Harat in Zahle
Harat with protruding balcony in Zahle
Functional outline

The bedrooms are organized on each side of the main room. One of these rooms, near the entrance, is used to welcome guests. The large main room is where the family and guests gather. In the back, the liwan is a winter living room. The kitchen and toilets are always on the east side. This position is linked to the direction of dominant winds, Southwest and Northeast, which help evacuate moisture and smells. Every room has large windows to enjoy the panorama (Mountain view, valley or seafront views.) The wikalat has a central staircase leading to the two apartments of the building.
Functional outline

The bedrooms are organized on each side of the main room. One of these rooms, near the entrance, is used to welcome guests. The large main room is where the family and guests gather. In the back, the liwan is a winter living room. The kitchen and toilets are always on the east side. This position is linked to the direction of dominant winds, Southwest and Northeast, which help evacuate moisture and smells.

Every room has large windows to enjoy the panorama (Mountain view, valley or seafront views.)

The central hall was enlarged to maximize inside space.
Walls
The walls are made with ramleh stone, about 40 cm thick, or embossed stone, 50 cm thick.

Framework
The walls are made with stone and our load bearing. The main façade is composed of arcades. The ceiling is flat and made with wood. It is supported by wooden joists and beams, wood or metal. In wealthy residences, the ceiling is plastered and carried by a system of wooden laths called “Baghdadi”, the system itself is fixed on wooden beams. The plaster is richly ornamented with baroques motives and bull’s-eye.

Roofing
The roofing made with Marseilles tiles assembled on a wooden frame.

Rendering
In the cities of the littoral, the external wall is made with ramleh stone and it is rendered with lime. In mountain areas, this wall is made with embossed stone. The interior walls are made of stone. The renderings are painted with oil. Certain interior partitions are wooden baghdadi, that this to say small wooden planks rendered with lime. The joinery is made with qotrani wood, or Turkish cedar. The floor of the room is covered with Italian marble. Hexagonal floor tiles and smooth stone were also reported to make floors.

Openings and projections in the facade
Besides the three arches on the house’s main façade, all the openings are rectangular. A few samples of wooden kiosks were reported. In aristocratic residences, ornate lathes, galleries and cornices decorate the façade.

Traditional systems of air-conditioning
The air is conditioned naturally through house openings oriented in relation to dominant winds. Ventilation is mainly ensured by the many large openings (windows, bull's-eye, arcades) of the house. Heating is provided by a coal brazier.

Drinking water supply systems
Drinking water is supplied by public water networks. In remote towns are villages, water comes from wells or fountains.

Waste water drainage systems
Water drainage was originally carried out throw a septic tank or the ravine. At the beginning of 20th-century, public sewerage systems were set up in large towns are cities.
CURRENT STATE OF VITALITY AND PRESERVATION

This dwelling contains high aesthetic value and has been the subject of much attention, arousing intense patrimonial passion in the past two years. This category of house is considered a symbol of success and social accomplishment by the wealthy. However strong this interest may be, there is still no official preservation policy to date. The projects underway have not yet succeeded in gaining official interest. No systematic inventory has yet been carried out. However, the house with three arches is the only household architecture to have access to patrimonial preservation through associations in the 1960s. Most restorations have been carried out without consulting any experts.

TRANSFORMATION PROCESS

Typological transformations

Effect / Cause

- Volume:
  This typology has undergone many changes and alterations: new floors were added, volumes increased, floors divided into apartments or readapted to modern standards. In most cases the framework and Marseilles tile roofing have been replaced. Gardens have been transformed into parking lots or garages.

- Façades separations:
  Balconies have been removed and replaced by verandas. The triple arcade has often been filled, in part or totally.

- Structure:
  Reinforced concrete pillars have also been reported; the roofing is sometimes also made with concrete.

- Layout organization:
  The layout organization has roughly stayed identical. We can however noted the incorporation of modern bathrooms and bedrooms. The liwan is no longer used as a winter living room but often as an extra bedroom or a dining room.

Change in use

In certain towns the house with three arches has been attributed new roles: restaurants, schools, offices, clubs, banks.

Change in use of construction materials and techniques

- In use, living:

- Little used, in decline:
  Natural stone, wood, marble, oil paint.

- No longer used:
  Baghdadi ceilings, lime the rendering, traditional rendering, wooden frameworks supporting red Marseilles tiling.

- Recent incorporations:
  Concrete, cement rendering, construction blocks, aluminum doors and windows.
CAPACITY FOR REHABILITATION

Aspects of the typology

Score from 0 (very poor) to 10 (excellent)

- Capacity for sale or rental on the property market: 8
- Capacity for adaptation to present-day family and social requirements: 4
- Capacity for adaptation to present-day comfort requirements: 4

Score from 0 (insignificant) to 10 (major)

- Technical difficulty of rehabilitation: 3
- Administrative difficulty of rehabilitation: 4
- Financial difficulty (high-cost) of rehabilitation: 6

Obstacles preventing rehabilitation/causing the user to decide not to rehabilitate

Score from 0 (does not represent an obstacle) to 10 (represents a major obstacle)

- Administrative difficulties: 4
- Major technical difficulties: 3
- Irreversible deterioration of the structure: 9
- Listed/protected building: 4
- High cost of rehabilitation: 6
- Absence of aid/subsidies: 8
- Cost of the project and permits: 5
- Status of building/lease: 8
- Inflation of property prices: 2
- Social decline (delinquency, …): 2
- Poor environmental conditions (absence of minimum infrastructures, …): 8
- Desire to change the building for a modern one: 8
- Lack of sensitisation/appreciation on the part of the users: 8
- Not considered necessary (by the user): 7

Comments

Real estate speculation has endangered the house with three arches. It is in desperate need of typological study and systematic inventory reports, public preservation programs, and protection against uncontrolled and ill adapted rehabilitation works.

LEXIQUE

baghdadi: wooden planks of wood rendered with lime
bayt: house
harat: house with three arches on several floors: also the name given to a modern house
liwan: backroom of the large hall serving as annexed living room
mandaloun: gemelled windows
qotrani: Turkish cedar wood
ramleh: sandstone
riwaq: Arcade Gallery
wikalat: house with two apartments per floor

Sources used:
Graphic illustrations, Lebanese Academy of Arts (ALBA); Plans, Cross sections, Façades; students: Sokhn, Ferzl, Ghaoui, Absi, Mur, Yazbeck.
Graphic illustrations: Antoine Fischfisch; private collection.

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