

## **POPULAR ARCHITECTURE OF THE OLD CITY OF MOSUL THE ARCHITECTURE OF THE TRADITIONAL HOUSE**

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### **ABSTRACT**

The Old city of Mosul has a popular architectural heritage rich with its architectural, technical and decorative properties, where the city passed a series of constructional stages through its different historical periods, since the Islamic conquest to the present time. These properties are shown within the different types of buildings, the residential buildings, the religious buildings and, the service ones. In this research, there will be a special focus on the popular residential architecture in the city represented by the architecture of traditional house, and that goes for the richness of its components and the abundance of its architectural elements, and its aesthetics, and the fact that it represent the greatest fabric of the old city, The research refers to these architectural properties of the traditional house architecture, which are classified and dealt within four fundamental levels:

1. Architecture properties within the level of the components.
2. Architecture properties within the level of the plan.
3. Architecture properties within the level of the constructional system and building materials.
4. Architecture properties within the level of the elevations and decorating.

The research is concluded by referring to the most important design properties that have been arrived at these levels; which illustrate the traditional house architecture in old city of Mosul. as follows :

1. As far as the level of components is concerned, the traditional house of Mosul is characterized with a set of basic components which are: the courtyard, alaiwan, chambers , basement, corridors and entrance, and minor components that depend on the standard of living for the people at

home: the kitchen, Food stuff cupboard, stair, roof, alashkhim, the archway and well.

2. The plan of the traditional house of Mosul is mostly characterized that it consists of an open courtyard which is surrounded – from one side or more- by house wings, corridors, and the attachments of other services, while the scheme of the wing of Mousilian House consists of aiwan which is surrounded by a room from each side; besides, The pattern of its spatial organization at the general level is the central type, while the pattern of spatial organization for detailed parts (wings) is a triple ones. The style of openness is inward and the isolation from the outside world, provides high privacy for the resident.

3. As far as the level of the constructional system and building materials is concerned, the used constructional system is basically the walls-bearing system, in addition to the use of the structural (columns) system in the basements (if any). The use of dome in roofing, which is characterized by the diversity of forms. The diversity of building materials used and multiple uses in the Mousilian house should be noted, plaster and stone and Mousilian marble can be used as a constructional material, as well as for covering and decorating surfaces.

4. As far as the level of elevations and decorating is concerned, the traditional house of Mosul is characterized by its rich treatment of inward decorating, while the outward is simple. The interior walls are treated by using ornamental treatments, and decorative, constructional, and architectural elements. There is a focus on the use of the Mousilian marble which is used for building entrances, frames of windows, arches and pillars, besides the use of some other materials in the decorative work like plaster and iron.

## 1. Introduction

The Old city of Mosul has a popular architectural heritage rich with its architectural, technical and decorative properties, where the city passed a series of constructional stages through its different historical periods, since the Islamic conquest to the present time. These properties are shown within the different types of buildings, the residential buildings, the religious buildings and, the service ones. In this research, there will be a special focus on the popular residential architecture in the city represented by the architecture of traditional house, and that goes for the richness of its components and the abundance of its architectural elements, and

its aesthetics, and the fact that it represent the greatest fabric of the old city, The research will began with referring to the fundamental levels of the Mosulian traditional house, to make it possible for clarifying the architectural properties of this house architecture, within these levels which are described and classified by the architectural specialized studies.

## **2. The Basic levels of Traditional House of Mosul**

In order to determine the basic levels of traditional house of Mosul, we are going to get the help of three architectural studies which tackled the reference to fundamental levels of studying the designing characteristic within the architectural models and according to different details, and depending on the guidance of each study.

The first study was for Paul frankle who handled the description of designing properties of historical and architectural models of buildings. The study also referred to a group of levels of architectural models which can help to determine the levels of architectural design properties within the historical architectural models needed to be explained in this paragraph, where the study analyzed and described the history of buildings style, including the reference to a series of models level which considered to be important in analyzing architecture and exploring the characteristic of models of historical architectural models, namely the followings:( Spatial formation level, which related to ground plans, Physical formation level, which is related to blocs and how they are formed with each other, Visual formation level which is related to elevations and ornamental treatments. [1 p 158]

The second study was for “Argan”, which tackled the topic “Architecture model” which referred to basic levels of formal architectural typologies, and these types fall into three basic classifications that follow the succession of designing process:-

1) The patterns associated with complete configuration of the building (plan level).

2) Patterns associated with basic structural elements such as:- roofing patterns, construction systems (components level, construction system level).

3) Patterns associated with surfaces treatments such as pillars harmony and ornamental treatments and others... (decorative treatments level).

According to above there was patterns for:- plans, components, structural systems, and finally for surfaces treatments.[2 p 244]

The third study was for “ Baker”, and it was about designing strategies and form analysis, which tackled a series of levels of architectural models, including the followings: -(Physical formation level which includes construction material, techniques and construction systems, the level of basic constructional types and their fundamental components and plans, The level of blocs formation concerning the blocs and how to join them with each other, beside the general form and its relation with space, The level of architectural formation treatments which is related to detailed decorative treatments and how to treat inside and outside faces of the building, forms of apertures such as windows and doors. [3 p 26-43, 63-75]

**After examining the above three studies we adopted four basic levels for studying the traditional house of Mosul which are as follows:**

**1) Plan level**

**2) General and detailed components level**

**3) Construction system level such as construction system, roofing patterns, pillars patterns, construction materials, architectural formation treatments level and visual values of the building, elevations and ornamental treatments, such as apertures (windows, doors,...etc), and how to treat them beside the treatments of internal and external walls.**

**We are going to explain designing properties in details and within each level.**

### **3. Designing Properties for Traditional Mosulian House Within its Basic Levels:**

After clarifying fundamental levels of traditional house of Mosul, we are going to explain the designing properties within these levels in the following paragraph:

3. 1. Designing properties within components level.

3. 2. Designing properties within plan level.

3. 3. Designing properties within constructional system and construction materials level.

3. 4. Designing properties within elevations and ornamentation level.

#### **3. 1. Designing Properties Within Components Level**

This level discusses designing properties related to components level such as; basic kind of spaces within traditional house in terms of usage nature, their preparations and their relation with each other. Architectural studies referred to Mosulian traditional house building, has pointed out a

group of fundamental components as follows:-

**1) The courtyard:** The inner yard surrounded by the parts of the building. It has square shape or rectangular one. In the middle of the courtyard, there is usually a garden called “Al Bustan”, and beneath it, there is usually a basement, Around the sides of the courtyard there are the followings:- Al awaween, corridors, upstairs staircase, the doors of downstairs rooms, aperture of the arch or entrance door, and also include the well. The courtyard is considered to be center of most activities of the house.[4 p 6]

**2) Al aiwan:** It has a square or semi square shape. Its aperture takes the shape of pointed arc towards the courtyard. Along its sides lies the rooms of the house, or the rooms might lie on one side of the aiwan. Both, the courtyard and Al aiwan floor have the same level of height, or the level of height of Al aiwan might be higher than that of the courtyard, depending on whether there is a basement or not. [4 p 6]

**3) The rooms:** Usually tend to take the form of elongation, and has only one entrance at most, and one or more than one window overlooked the courtyard or Al aiwan, The rooms also contain a set of wall cupboards. [4 p 6]

**4) Basement:** This component was designed in such a way so as not to effect the first floor building but a little, that serve its constructional aims. At the same time, it is a successful design cause it resists the hard effect of summer heat. That is way its location is beneath the courtyard and extends under some parts of the house so as to raise the level of the courtyard. As its breadth is big, a group of pillars are established in the middle of the basement, and over these pillars, there are pointed or semi circular arcs of marble. The roof of the basement is covered by low a dome so as to provide a suitable height almost to be as a roof for the courtyard or the building above it. [4 p 7]

**5) Corridors:** It is an architectural system that considered to be an important element in Mosulian house and it was imposed by climatic conditions so as to prevent the house from intensive heat in summer and the rain in winter. In addition to that, it allows the sun ray to pass through the rooms in winter because of its low altitude, and prevent it in summer, making shadows before the rooms because of its high altitude. The corridors are usually lies before the rooms or surrounding the courtyard. They are formed by row of pillars that are located in front of the buildings

surrounding the courtyard. The pillars are joined together by pointed or semi circular arcs. [4 p 7]

**6) The entrance:** usually consists of two pillars, and over these two pillars there is an arc which might be surrounded by ornamental decoration so as to complete its elongation. The door usually made of hard wood such as pomegranate tree wood and mulberry tree wood, In order to make it strong and have nice looking, it is usually covered by iron tapes, then fixed by nails of big and semi circular head. The entrance leads to an arch or a door for passage which reaches an aperture or a second door that lead to the courtyard, and therefore achieves the avoidance of facing the outside directly, and finally keeps the privacy of the family living in the house. [4 p 8]

**7) Secondary components:** They come after establishing the basic components of the house to occupy the other spaces with these secondary components which depend on standards of living of the family. The followings are some of these components:-

**The kitchen:** Some families lies allocate special suites for the kitchen, and others allocate a room with some annexations, where as some families allocate a very small restricted place for the kitchen exactly as the place occupied by a fire place or a baking oven and store materials. [4 p 8]

**Food stuff cupboard:** Another space annexed with the rooms from inside, and it is usually of low roof which help to build similar room whose stair will be from the food stuff cupboard, and it is called “ attic”. The food stuff cupboard is used for food stuff storage and the attic is used for unuseful stuffs. [4 p 8]

**Stair:** Usually designed to be visible form the courtyard (not hidden), but some families give it a special importance by allocating special place for it in conformity with other elements of the house, such as having an special entrance, or that one of its ends starts from inside the corridors, and sometimes from the attics. [4 p 8]

**The roof:** It is an important element for Mosulian families, because it is used for sleeping at summer nights. It is surrounded by wall which have the same height of human body so that no one can see the residents of the house from outside. It might have some narrow openings over looked the courtyard or the outside of the house. The roof contains at most a water-closet. [4 p 8]

**Al-Ashkhim:** It is used for grain storage. It is built by roofing the space between two voulets. Usually built on both sides of Al aiwan's volutes or the rooms that adjacent to Al aiwan. It has adoor overlooking the courtyard. Al-ashkhim can be got in by using a mobile wooden ladder. Grains stored in by the roof, through a hole called (Shaghagah), and when we take the grains, we do from another hole which lies on Al aiwan joint.[4 p 8]

**Archway:** Or what have been known as (Al sabat). It carries the rooms over the road. There was 1600 archways in the 7<sup>th</sup> Al hijri century.[5 p 67]

**The well:** An essential element of the house usually lies on one of the courtyard sides. It has one or more hole in case it penetrates the basement. [4 p 8]

### 3. 2. Designing Properties within Plan Level

This level discusses design properties related to the plan level, such as space organization type used in this field, circulation system, space gradual and specialty levels, openness style and its direction, within traditional house plans.

The general plan of Mosul traditional house at most consists of opened courtyard which is surrounded (from one side or more) by house wings, corridors and other service annexations, (fig. No.1). As for the plan of Mosul house wing, it consists of Al aiwan which is surrounded by the rooms from all sides. This type of plan is called " Al hiri thu Al kumein". [6 p 3-4]

Architectural studies show that the plan of Mosul traditional house is characterized with a central type of space organization, and the main focus in the structure is the inner courtyard which is considered to be the lung of the house, and all other parts of the house overlooking the courtyard. Besides, it distributes the movements to these parts. The space organization type of detailed parts (wings), is triple organization type.[7 p 10]. As for openness style, Mosul traditional house is characterized with openness towards inside by the existence of the inner courtyard and the distribution of rooms around it, and its isolation from outside.[4 p 5]. In addition to that, Mosul house was characterized with high privacy, cause reaching the main focus (inner courtyard) is achieved by a chain of intermediate spaces and indirect entrance, beside the big space depths of the house through spatial gradation of the house rooms which contact with each other successively. This privacy is supported by the fact that all openings of the house are

directed toward the courtyard, and even this openness is indirect, that is to say, through intermediate spaces opened to the courtyard (Al aiwan, corridors), and the openness toward the outside is very little in the upstairs and hardly exists in ground floor. [7 p 10-11].

It worth to say that design style of house depending on inner open courtyard which is surrounded by all parts of the house is considered to be an extension and continuation of ancient Babylonian house design in Iraq, and its first indications have appeared in Mosul city since metallic stone age in Tel- Hassouna (5600-5000)B.C.[8 p 54].

### **3. 3. Designing Properties within Constructional System And Building Materials Level**

This level focuses on design properties related to constructional system level and construction materials such as used constructional system type, construction materials and how to deal with them in each constructional stage.

The constructional system used in building Mosul traditional house is basically wall bearing system, in addition to the use of the structural (columns) system in the basements (if any). And domes usage in roofing, which was characterized by the diversity of forms (Cradle dome, Bakdasheya dome, Tisht dome). [9 p 3]. One of the most important constructional materials used in constructing general building of Mosul traditional house is flint stone, plaster, marble, lime stone (Al hillan). The walls are built with flint stone and plaster, where the bases are built with the same materials in addition to hydraulic lime. The domes are built by adding fresh gypsum to plaster and Al khirshan (old building plaster which characterized with little weight), Mosulian marble (Alfarsh) which is used to build the entrances, pillars, arcs, window frames, lower edges of the walls, stairs, pavement, wall cupboards, decorative frames and other decorative needs of the house. The Mosulian marble is used in places that should not be imposed to weather conditions, specially rain, where as Al hillan stone is used in open areas such as courtyard bavement. [ 4 p 9].

It is to be noticed the diversity of building materials used and multiple uses in the Mousilian house, plaster and stone and Mousilian marble can be use as a constructional material, as well as for covering and decorating surfaces. [ 7 p 11].

The usage of these materials is attributed to their abundance in places close to the city, and there is accumulated experience for preparing these



materials since the old ages (Assyrian ages) and after. There are other materials used in building but its usage is less than the basic ones, such as wood, glass, ceramic, brick, bitumen, and others. [4 p9].

### 3. 4. Designing Prosperities within Elevations and Ornamentation Level

This level discusses designing properties related to decoration and elevations level such as visual values of building, detailed treatments for elevations such as, openings, entrances, and ornamental decoration used and its forms.

There is richness in treating elevations and decoration for the inside of Mosulian traditional house outside of the house is characterized with simplicity, where the inner walls are treated through ornamental constructional architectural elements and decorative. There is a focus on using Mosulian marble which is used to build doors entrances, windows frames with various styles of ornaments such as:- (Al-adl, Al-door, Al-kassami, Al-kakhma, thu-nabain wa- miftah) (fig. No.2). There is a relation between entrance style of marble and windows frames which are carved as the same as entrance style are carved within the Mosul traditional house [10 p 50]. Mosulian marble is used to establish pillars, arcs which consist of ornamental elements called (Al-Dallayat) (fig. No.3). The arc of the Aiwan is built with marble, and it is almost pointed arc (fig. No.4). Marble is also used for making Al- mashaki which are considered as architectural elements look like windows in terms of its composition but they are not opened from behind. And usually has the same style of the entrances and windows in order to achieve unity factor in Mosulian traditional house (fig. No.4) [ 10 p 51].

Ornaments are usually made of marble, and there are various kinds of decorations used in Mosulian traditional house such as (geometrical ornaments, plant ornaments, written ornaments, abstract ornaments, and ornamental units overlapped with the ornamental elements mentioned above. These ornaments are achieved by two basic forms as follows:

**1- Relief ornaments:** The most used ornaments, which consists of plant and geometrical ornaments overlapping with each other and symmetrical. It might consist of writings that refer to the building and who built it or it takes the tape from surrounding the building, consisting of leaves and flowers.

**2- Inscribed ornaments:** They are of limited use, either inside units

of symmetrical dimensions, or opposite to each other inside geometrical units.

Ornaments are implemented on entrances, windows frames, arcs, pillars, pillar basis , wings elevations that overlooking the courtyard, enveloped cover of the Aiwawen and Mashaki, writing topes and other.

In addition to Mosulian marble, some other materials were used in decoration and ornaments such as:- plaster in making plaster ornaments, iron in making balustrade.

#### 4. Conclusions

The research is concluded by referring to the most important design properties that have been arrived at the four fundamental levels; which illustrate the traditional house architecture in old city of Mosul. as follows:

1. As far as the level of components is concerned, the traditional house of Mosul is characterized with a set of basic components which are: the courtyard, alaiwan, chambers , basement, corridors and entrance, and minor components that depend on the standard of living for the people at home: the kitchen, Food stuff cupboard, stair, roof , alashkhim, the archway and well.

2. The plan of the traditional house of Mosul is mostly characterized that it consists of an open courtyard which is surrounded by – from one side or more- wings, corridors, and the attachments of other services, while the scheme of the Wing of Mosulian House consists of Aiwan which is surrounded by a room from each side; besides, the pattern of its spatial organization at the general level is the central type, while the pattern of spatial organization for detailed parts (wings) is a tripartite one. The style of openness is inward and the isolation from the outside world provides high privacy for the resident.

3. As far as the level of the constructional system and building materials is concerned, used constructional system is basically the walls-bearing system, in addition to the use of the structural (columns) system in the basements if any. The use of dome in roofing, which is characterized by the diversity of forms. The diversity of building materials used and multiple uses in the Mosulian house should be noted, plaster and stone and Mosulian marble can be use as a constructional material, as well as for covering and

decorating surfaces.

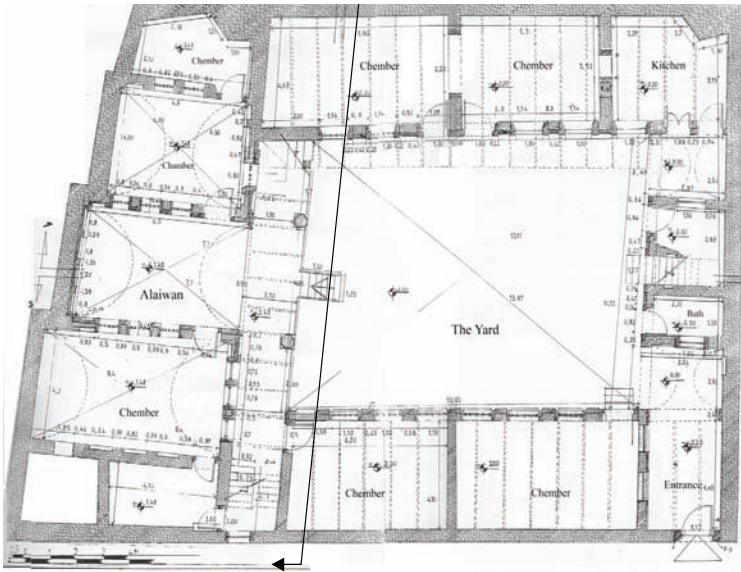
4. As far as the level of elevations and Decorating is concerned, the traditional house of Mosul is characterized by its rich treatment of inward decorating, while the outward is simple. The interior walls are treated by using ornamental treatments, and decorative, constructional, and architectural elements. There is a focus on the use of the Mosulian marble which is used for building entrances, frames of windows, arches and pillars as well as some other materials used in the decorative work like plaster and iron.

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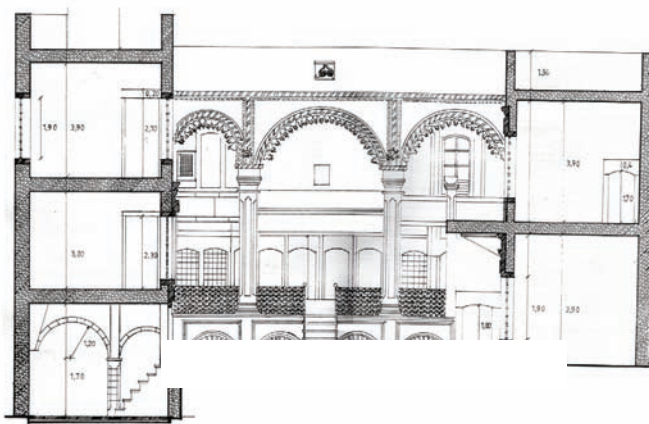
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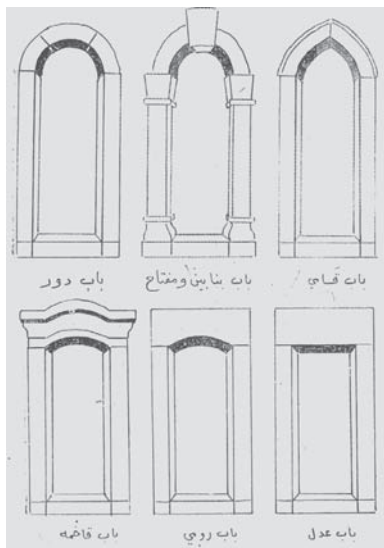
**FIGURES**



**Fig (1) Typical plan of a traditional house of Mosul city**



**Section for the same traditional house**



**Fig (2) Types of entrances in the traditional house of Mosul city**



**Fig (3) Columns and Arches in the traditional house of Mosul city**



Fig (4) Arch of the aiwan in the traditional house of Mosul city



Fig (5) Almskaki in the aiwan of the traditional house of Mosul city



The Staircase



The entrance



The Basement



Detail of the ornaments

