

## المكونات التخطيطية والمعمارية للمباني التراثية العراقية

### Planning and Architecture Elements of Iraqi Heritage Buildings

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## ملخص

كان العراقيون الأوائل هم بناء الحضارة وروادها، نشأت على أرضهم اعظم الحضارات الإنسانية المبكرة، قوامها النص المكتوب والفن الرائع والتشريع العظيم والأدب الرفيع ونظام الحياة في نواحيها السياسية والاجتماعية والاقتصادية وهذا ما مهد للبشرية سبل التقدم والتطور ، وامتداداً لهذه الحضارة العريقة كان التراث العماري العراقي

لذا يعتبر الحفاظ على التراث العماري ضرورة الإبقاء على هذا التراث والحفاظ عليه قيمة تاريخية وتوثيقية تسجل إنجازات أجدادنا الكبيرة في خلق بيئة عمرانية ذات ميزات خاصة.

وان التراث العماري هو الصلة الروحية والشكلية بين ماضي الأمة وحاضرها لهذا نرى ان أي عمل يقوم به الإنسان في هذا المجال مهما كان صغيراً هو تخليد لماضي عريق تفخر به الأجيال في المستقبل لان هذه الأعمال قد بذل فيها البناء والنجار والمزخرف والحرفي جهوداً جبارة من اجل إخراجها بالشكل الذي وصلت به إلينا وهي في الحقيقة تمثل طرازاً عمارياً وفنياً ساد في حقبة زمنية كانت لها خصوصيتها .

تتكون المكونات تخطيط وعمارة الدور من المدخل والابواب بكل انواعه ، ثم الشناشيل المطللة على الازقة والطرقات، والساحة الوسطية (الحوش)، ومايطل عليه من مرافق بنائية ، حجر وغرف، الايوان ، الآرسي، طارمة ، كفشكان ، السرداب والبادكير السرداب ، روافع السقوف ، السقوف ، سلالم وحمامات.

## Summary

The earliest inhabitants of Iraq were foundational contributors to the development of civilisation. Significant early human civilisations emerged in this region, distinguished by advancements in written language, art, legislation, literature, and comprehensive social, political, and economic systems.

Consequently, the conservation of architectural heritage is essential, serving as both historical documentation and acknowledgement of the remarkable accomplishments of previous generations in establishing a distinctive urban environment.

Architectural heritage provides a vital connection between a nation's past and present. Any contribution within this field, regardless of scope, serves to commemorate this legacy for future generations, reflecting the craftsmanship and artistry of those involved—including builders, carpenters, decorators, and other artisans. These efforts not only highlight the architectural and artistic styles characteristic of specific eras but also ensure their continued appreciation.



Key elements of schematic and architectural layouts include various types of entrances and doors, shanasheel overlooking alleys and streets, the central nave, adjoining building facilities, rooms, the iwan, arse, balcony, kaftan, basement and its subdivisions, ceiling structures, stairs, and bathrooms.

**Keywords** : components, Architectural heritage , environment, basement, balcony, kaftan, The iwan .

### **First: the entrances and doors**

The entrance is the place of entry and is the opposite of the exit <sup>(1)</sup>, and the door is what blocks the entrance and is closed by wood and other things. <sup>(2)</sup> Based on this, the entrance is the place or space that passes through the place that is determined by it, and it is the key to the building and the link between inside and outside the building, and it has accompanied man since the beginning of his settlement and has taken many forms <sup>(3)</sup>

And no building, regardless of its shape or type, is free from the presence of one or more entrances in the same building, and since it is the only outlet leading inside the building, it differed in its shape, capacity, location, and style of architecture, and the most prominent types of entrance are:

- Inlet with refractory axis:

This type of entrance has its characteristics in terms of its location and style of architecture, as it helps isolate the building facilities, especially the courtyard, from the outside to achieve environmental and social purposes. It is long due to its social, climatic, and security importance, by preserving the sanctity of the house and preventing the stranger from intruding on what is going on inside the courtyard, just as the one inside the house can see the passersby <sup>(4)</sup>

The one entering the house before reaching the courtyard must change its direction at least once inside the entrance vestibule without anyone seeing it. It reaches the yard, in addition to its importance from the climatic point of view and maintaining the cleanliness of the building by preventing air currents and dust from affecting the building's atmosphere (panel figure number <sup>(5)</sup>

- Inlet with straight axis:

The second type of entrance is perpendicular to the courtyard and leads directly to it. This type has been used in many service buildings to varying degrees in houses, khans, baths, mosques, mosques, takes, schools, and government departments, but its use is minimal when compared to the broken entrance. Heritage houses in the Ottoman era. Spacious in the era of Iraqi heritage houses dating back to the Iraqi royal era.

The Iraqis were interested in building entrances that fit the buildings, some of which are at the level of the wall, some of which are lower than the azimuth of the wall, and some of them are prominent from the azimuth of the wall and decorated with floral and geometric motifs, topped by muqarnas in the form of semantics (Plate No. 1), and they beautified them with pointed, cut, arched and semi-circular arches and according to what suits the role and the entrance reflects The value of the building and its grandeur, that is why we find the architect pours all his efforts and does his utmost to highlight it and show it in an eye-catching appearance that draws attention in terms of luxury and decoration.

Blocking the entrance openings with old wooden doors, one of them with one shutter, decorated with large convex nails of iron or bronze (Fig. 2), decorated with grooves and graphic or geometric decorations, and they were geometrically fixed on wooden boards installed vertically or horizontally on the half-columns, and they are fixed On a hook made of stone or iron in its lower and upper section in an iron ring that is closed by a latch of wood, then the iron lock was used after the First World War.<sup>(6)</sup>

As for the second type, it is also made of wood, except that it consists of two shutters. Each shutter is decorated with floral motifs in the form of plant branches, leaves, and flowers that attract the attention of the beholder to them, in addition to the brick decorations that decorate the facade on both sides of the door (panel No. 3), and above it is in the form of a spiral column that surrounds On the door above it, or in the middle of the knot that tops the doors, brick decorations with vegetal and geometric shapes are formed, which is a sign of accuracy and creativity that indicates the skill of its maker

The doors are closed using a latch (handkerchief), a rectangular wooden arm installed behind the door with a hole in the wall closest to its depth, allowing the latch to enter inside when the door is closed. (A large iron lock that opens and closes by an iron key approximately one foot in length and inside the kilo is an iron tongue that moves by a prominent iron arm to enter a special hole inside the wall when closing the door from inside the house and pulls the iron arm from the opposite side so that the tongue comes out

from the hole in the wall when He opened the door (the ski or fallen), then the shape of the door evolved and it was made of two shutters of wood, placed in the upper section of each flank and at the height of reach, a hammer made of copper and it was replaced in a late period by the electric bell when electricity entered Baghdad in 1934 AD.<sup>(7)</sup>

### **Second: Shanasheel**

The name "Shanashil" is believed to be derived from two words in the Persian language, namely (Shah Nasheen), which means the best council or the king's council. <sup>(8)</sup>the late Basra historian Hamid Al-Bazi says that the word Shanashil is a Turkish Mongolian that came to Basra after the fall of the Abbasid state. It was built first as a cabin and then converted into a residential house<sup>(9)</sup>.

They are the protrusions and protrusions that appear on the upper floor of the building in the form of a successive series of glazed wooden windows extending along the front facade of the building and overlooking the alley, where they protrude at a rate of (50-75 cm) based on cables or holders <sup>(10)</sup> (Plate No. 4) from Wood in the central and southern governorates, and stones in Mosul and some northern cities in the form of rams' heads. It has gradual ends and its heads are decorated with large iron nails with convex ends sweetened by straight and intersecting engraved lines and geometric shapes or in the form of small veins.

As a result of the customs and traditions that prevailed at that time, including the veil imposed on women, the windows were covered from the outside with a layer of cut wood called (Kim) <sup>(11)</sup>, the benefit of which was to allow those inside the house to monitor and control what is happening in the street without anyone seeing it, in addition to its function in protecting the windows from breaking (Plate No. 5), the shanasheel phenomenon did not neglect the climatic aspect, as its design allows the penetration of a sufficient amount of light and air into the rooms whose facades are decorated with shanasheel, which has become a feature not for Arab architecture, but for every architecture in the weather is hot.<sup>(12)</sup>

Al-Shanasheel was built for two purposes, the first of which is structural, which is to reduce the weight imposed on the walls on the ground floor, and the second for beauty, so we see the cooperation between the builder and the carpenter clearly "to complete this delicate architectural artwork that gives the building a special aesthetic, we see the multiplicity and diversity of windows, most notably the vertically sliding type Which opens by raising and

closing by lowering, and iron joints have been used on both sides of it called (Narmada) <sup>(13)</sup> to prevent it from falling when lifting.<sup>(14)</sup>

Some of the Shanashel windows present iron exits in the form of a semi-cylinder or rectangular cubes or the form of a vase, and the center of the base of each exit is a circular hole in which was placed the pottery pot of drinking water called the Baghdad (drinking) and that is why these iron exits (mashrabiya) were named after the bowl Pottery drinking (drinking it) used to cool water.<sup>(15)</sup>

The use of the balcony in the Iraqi royal period instead of the Shanashel, as no building from this period, has a balcony in its facade, such as the balcony in the main facade of the Flower Palace, the balcony in the main facade of Al-Kilani Palace, and the balcony in the main facade of Tawfiq Al-Suwaidi Palace (Plate No. 6.)

The open courtyard is one of the important aspects accompanying architecture from its inception until now, which indicates its success as a sound architectural solution that serves climatic <sup>(16)</sup> and social treatments, in which it blocks from the inhabitant all the external factors of nature and leaves him with absolute enjoyment of the sky <sup>(17)</sup>, as well as softens the intensity of light and filters The air, which is mostly dust-laden, and also helps to reduce noise.<sup>(18)</sup>

The Iraqi heritage buildings are characterised by planning, architectural, construction, and technical characteristics of almost one character, represented in the distribution of residential ceilings around a central courtyard open towards the sky called (the courtyard) or (the spacious) through which a view of space can be achieved by day and night

This system, despite its antiquity and its suitability to the climatic and social conditions in Iraq and the Arab and Islamic world, was the essential element at the heart of any building. It is considered one of the important architectural treatments emanating from the design of Arab thought and explicit response to the requirements of the region's climate, and the good square was built on measurements of the period of diminishing sunlight reaching it. It helps cool temperatures in the summer if the doors and windows are left open to air currents, and the opposite happens in the winter season, storing warmth, that is, if the doors and windows are closed <sup>(19)</sup>. In addition, it is a service yard where most of the housework is practiced and done. Experiments have proven that the patio is the most suitable design because of its high capabilities to meet different needs and uses. As for the royal period, the appearance of the open courtyard disappeared in the

heritage buildings because their designs were influenced by European designs, which now contain the distribution room (the hall) in the house <sup>(20)</sup> (Plate No. 7)

### **Third: The middle square (the courtyard)**

The open courtyard is one of the important aspects accompanying the architecture from its inception until now, which indicates its success as a sound architectural solution that serves climatic <sup>(21)</sup>, and social treatments, and in which it obscures the inhabitant from all the external factors of nature and leaves him with the absolute enjoyment of the sky <sup>(22)</sup>, as well as reduces the intensity of light and filters The air, which is often loaded with dust, also helps to mitigate noise.<sup>(23)</sup>

The Iraqi heritage buildings are characterised by planning, architectural, construction, and artistic characteristics of almost the same nature, represented by the distribution of residential roofs around a central square open towards the sky called (the courtyard) or (the spacious) through which a perspective of space can be achieved day and night.

This system, despite its age and suitability for the climatic and social conditions in Iraq and the Arab and Islamic world, was the main element at the core of any building. It is considered one of the important architectural treatments emanating from the design of Arab thought and an explicit response to the requirements of the region's climate. A good yard is based on measures that reduce the period of sunlight reaching it, as it helps to moderate temperatures in the summer if the doors and windows are left open to air currents, and the opposite happens in the winter. In winter, it stores warmth, that is, if the doors and windows are closed. Exposed in heritage buildings due to the influence of their designs by European designs that came to contain a room or distribution room (Al-Hol) in the house <sup>(24)</sup> (Panel No. 7).

### **Fourth: the corridors**

The corridors are a type of semi-open spaces for buildings, and they are a link between the open courtyard and the distribution room (the hall). It is closed in the summer and prevents rainwater from entering in the winter, and it also helps to facilitate the movement of the building's users away from the influence of the surrounding climate <sup>(25)</sup> (Plate No. 8.)

Arcades have been used in Iraq since ancient times. Galleries were found in some houses in the village of Hassuna <sup>(26)</sup>, then were found in the Sumerian city of Ur, where a portico was found in a house overlooking the courtyard on the ground floor.<sup>(27)</sup>





The use of the arcade continued in later eras to appear in many Islamic buildings, and the Ottoman period building is almost devoid of corridors, especially in Iraqi heritage buildings. We find many examples of corridors in these heritage buildings.

#### **Fifthly: the rooms**

And they are one of the important elements in the construction, and without their presence, an integrated unit of those buildings in its true sense would not have been formed to perform its mission as it should.

The rooms are among the brown dwellings overlooking the courtyard, as mentioned in the Noble Qur'an in the Almighty's saying: {Indeed, whoever calls you from outside the rooms, most of them do not understand.<sup>(28)</sup>

The entrances to these rooms were not the same in all houses and palaces if they had more than one entrance according to the importance and location of the house, while some of the entrances to the rooms overlook directly on the courtyard. or iwan or opening on the balcony preceding these rooms<sup>(29)</sup>

#### **Sixth: Windows and Henaya:**

The window is the window that opens into the wall regardless of its size and shape, and it is a wide window that provides the rooms of the building with light and air, and it also contributes greatly to reducing the weight that the walls are placed on the foundations of the building and the work of those windows leads to saving building materials and saving costs<sup>(30)</sup>.

We do not have enough evidence to know the windows in terms of their shape, location, and method of construction, especially in the early Islamic period. Among the oldest examples that have come down to us are the windows of the Dome of the Rock (72 AH / 691 AD) whose openings decorate the neck of the dome, the external octagonal windows of the dome covered with perforated marble curtains, and the dome windows that crown the heated room. In a short bathroom for Umrah and the windows of the qiblah wall of the Umayyad Mosque in Damascus.<sup>(31)</sup>

In the Abbasid era, despite the scarcity of existing monuments, we can distinguish several windows, including the windows of the Ukhaydir castle, the windows of the palace walls, and the Great Mosque of Samarra, whose construction is attributed to it. To Caliph Al-Mutawakkil (232-247 AH / 847 - 861 AD).<sup>(32)</sup> In the Abbasid Palace, Khan Murjan, and the Mustansiriya School in Baghdad.

Until the Ottoman period, in which windows continued to be used in the same places and on the same previous methods, most of the windows in heritage buildings were concentrated in the external building facades, which



open to the courtyard as well, and are of regular shapes (rectangular or square)

As for the Tenaya, they are windowless niches <sup>(33)</sup> and they can be defined architecturally as cavities or deaf folds built in the internal or external facades of the walls, and that the main factor in their innovation is an architectural element aimed at reducing the weight of the building and economy in building materials as it serves by providing space for placing Special lighting fixtures.<sup>(34)</sup>

Hanaya was known in ancient Iraqi architecture, as the oldest model of it was discovered in the first layer of Tell al-Sawan from the Hassuna era <sup>(35)</sup>, and this Hanaya appeared in the Assyrian palace and city walls. <sup>(36)</sup>, and in the Islamic era, it became one of the important architectural and decorative elements in Arab architecture, and Islamic law, as it appeared in the outer walls of the Dome of the Rock (Dome of the Rock).

Hanaya continued to be used in the Ottoman era, and we find it widespread in Iraqi heritage buildings

### **Seventh: The Iwan**

Ibn Manzur says in the iwan that it is almost a sink with a blocked face. <sup>(37)</sup> Others say that the spacious part of the house is surrounded by walls on three sides, <sup>(38)</sup> Al-Amiriya is known as the mixed house, that is, the high building in which there is no dead end, that is, it exists. A hall covered with a vault, open in the front and overlooking a vaulted courtyard, semicircular, pointed, bulging, or flat<sup>(39)</sup> .

As the iwan is a spacious room with an open front in the courtyard and a high ceiling, it was the formal place used for meetings, meetings, councils, and many daily businesses (plate number 9).

It seems that the iwan was known in Iraq since ancient times. Archaeological excavations have revealed many models in palaces, houses, mosques, schools, and temples. Among the most prominent examples are the iwans of the Arab city of Hatra in the first and second centuries AD. The iwan of the Sun Temple can be considered the oldest large iwan known in ancient Iraq, and it was built. with broken stoneIn the Islamic periods, this architectural element spread in all Arab and Islamic buildings, especially in the Ottoman era, to suit the climate of the region, especially Iraq, where we see it in Baghdad, Mosul, Najaf, Karbala, and Hilla and most of them. Iraqi cities according to local specifications and building materials available in each region. In the Ottoman period and heritage buildings, it had interior facades with this type of architecture

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### **Eighth: The basement and its accessories**

The vault is one of the important elements in the Iraqi heritage buildings, due to the climatic conditions in Iraq. The basement is a Persian word consisting of two syllables: "Sard, Aab" which means cold water <sup>(40)</sup>, and the basement is also called "Zer-Zemin" which in Arabic means an underground building. It is also known as the wasp if it is deep, and it is also called the tooth or "nim crypt" if it is less deep.<sup>(41)</sup>

The basement is a summer room, it is several degrees lower than the ground level of the house and contains several air ducts to draw air from the high ceiling of the house.

His floor was paved with bricks, and in the middle was a small basin used to drain the water after washing the floor of his house every morning until it cooled, and his windows overlooked the courtyard of the house<sup>(42)</sup>.

Connecting to the main basement is another basement that complements the original basement called the basement. Its entrance is from the entrance to the original basement with an unpaved floor, which is several steps lower than it, and it has little light because, without windows, some of them extend to the courtyard of the house where there are windows in the courtyard floor. The form of colored strips increases the lattice of the basement. It inspires joy and happiness in the hearts of its people.

The second basement is usually cooler than the main basement, and some family members sleep in it on hot summer days, and food is kept in the form of fat, torshi, molasses, jam, and others

The air nests are connected to what looks like a basin, the floor of which is lower than the basement floor and it is damp. When the air descends from the surface, it passes through these basins, and the air coming from the surface cools down and is termed "the wasp." Out of it the cold air that increases the coldness of the basement is called (eyes), or at the end of it, there is a box of wood or iron that serves as a refrigerator in the basement, in which are placed containers of water and fruits for cooling.<sup>(43)</sup>

### **Ninth: Al-Kafashkan: (Al-Kabashkan): Hanging rooms:**

It is a small room located on the upper floor of the house, with an average height of about (2 meters) and it is semi-suspended and that is why it is called the hanging room. The floor of the room is made of thick wooden planks and it is the ceiling of the room under which it is located. It was often used as storage for excess home furniture. It has a wooden and glass facade similar to the Shanashel facade, except that it starts from the middle of the height of the walls, from a height of (2 meters.)

It is complementary to the Shanasheel and its windows in terms of shape, decoration, and manufacturing style. It is similar to the Shanasheel and does not differ from it in anything. Sometimes it has a similar facade overlooking the courtyard.<sup>(44)</sup> .

As for the road leading to it, it varies from one house to another according to its location. Some of its only paths are the stairs leading to the roof, and in some houses, it is located on the side of the hallway that runs through the rooms of the upper floor or in the middle, and these rooms have secret entrances that the owners of the house do not know. The rooms that adjoin the room that lies below, and we have many examples in the old shops in Baghdad and other Iraqi cities, It has a front-facing courtyard (plate number 10).

### **Ten: columns and shoulders**

It is one of the important elements in Arab-Islamic architecture, and it was mentioned in the Qur'an in several surahs, including the verse ((He created the heavens without seeing and cast the earth so that it would not shake with you and move it from every creature. And water descended from the sky ordained in it every generous spouse)).<sup>(45)</sup>

The column is called several words, including a mast and a candle, and as it is called in traditional architecture, (the Dalek) <sup>(46)</sup> ) that was used by Iraqi architecture in most heritage buildings with everything in them. Forms and functions. He worked in homes, mosques, cafes, and baths. It rises at the height of the ground floor and is topped with a beautiful crown decorated with various decorations, most notably the muqarnas, which consist of one or several stations in the form of beehives. In her work, the method of assembling a large group of small wooden pieces of various geometric shapes and sizes was used, so that a skilled carpenter could be present among them. Shapes that invite admiration and contemplation in their form fascinate onlookers.<sup>(47)</sup>

As for the heritage buildings, simple types of wooden columns were used, crowned with simple capitals, and others without crowns. The bridge carrying the roof is based directly on the columns. In some of them, tree trunks were used as joists carrying the roof, columns carrying the ceilings of the utensils and the rams in the foreground.

After the first scientific war, many types of columns were used, including iron and marble, which suit the nature of the building, topped by crowns. We notice European influences on them, and from the heritage columns that spread in the thirties and the Arghinis, the brick columns that were

surrounded by the external doors on both sides in the form of a single or double column. Or in the form of a cylindrical column integrated into the wall or a half-column and sometimes a quarter of a column.<sup>(48)</sup>

Architectural shoulders are a kind of load-bearing structural element such as walls. They were used in Arab and Iraqi architecture to install ceilings and strengthen walls, and ornaments. It is known in Iraqi architecture since ancient times. It was used by the Sumerians in their early times and was decorated with rows of colored pottery cones. Its use continued in later ages until it became one of the most important features of Arab-Islamic architecture, especially in the Abbasid period. It was built of marble and sometimes of brick and plaster, and the weight of the roof rested on the pillar supporting the roof.<sup>(49)</sup>

### **Eleven: Arsi**

It is a wooden facade advancing the facade of a large room located on the ground floor of the house with three brick and plaster walls, decorated inside with several slates, which were the preferred place to put antiques inside. The fourth wall has a wooden facade consisting of windows whose openings are closed by colored glass called (Gamkhaneh) and overlooks the courtyard with its movable windows decorated with geometric and botanical inscriptions carved deep or prominent, and the use of colored and transparent glass in multiple colors, most notably, red, green and yellow, and this glass gives the This room is an "outstanding" beauty, especially at sunrise, and the colors are reflected inwardly, which makes the hearts happy.<sup>(50)</sup>

The room of the Orsi, which is usually built on a basement ceiling, was usually furnished with the best furniture and bedding available to the family, and it was always clean and tidy" and prepared to receive guests (Plate No. 11)

After the heritage houses were rich in this architectural element, it disappeared in the modern houses built in the European style, after the open courtyard (the yard) was turned into a closed room called (the hall), and thus the Baghdadi architecture lost an important element of its architectural and artistic elements.

### **Twelve: ceilings**

The roof is one of the important elements in architecture because of its importance in preserving the units of buildings and protecting them from rain and cold water in winter and protecting them from sunlight and air currents. Wood is one of the oldest materials that the Mesopotamians used in building and roofing buildings

1- Flat ceilings.

Flat roofs were built of wooden beams for which poplar tree trunks and sometimes palm trunks were used, and both types provided tall and strong wooden blocks, so these materials imposed a rectangular shape on the halls and encouraged rooms since the early periods of the history of Iraqi architecture to invent the Akkad to compensate for the shortage of timber. The good and straight.<sup>(51)</sup>

And the development of roofing methods in heritage buildings was a result of the entry of iron joists (Al-Shilman) imported from outside Iraq, which helped the architect in building flat roofs by the method of holding bricks and plaster <sup>(52)</sup>, and this did not lead to the adoption of iron joists to keep Iraqi construction away from its traditional methods of construction, which are The arch method with ornaments and decorative shapes that can be painted with paving bricks, and this continued to fill in the spaces between the iron joists , where the rectangular bands between the rectangular joists have become a fertile field for motifs and decorative themes that result from different methods of paving bricks in the ceiling node.<sup>(53)</sup>

As for the basement ceilings, they are usually based on several shoulders spaced at equal distances from each other, and they are built between the shoulders by the method of weaving carved bricks and stucco.

## .2- vaulted ceilings

The dome represents a type of roofing and an important element used by the ancient Iraqis in their architecture, and it is described as a circular building with concave inside and convex on the outside <sup>(54)</sup> and is distinguished from other types of roofs by relieving the pressure on the walls on which it rests so that its weight is distributed equally on the four walls <sup>(55)</sup> as It increases its cohesion ( <sup>56</sup>) from the structural point of view, and its climatic importance appears in the possibility of raising the domes to higher places than the rest of the building sections, which helps to open windows in its neck that increase the amount of light and air entering the parts of the building <sup>(57)</sup>, and the spherical shape has a surface area equivalent to Almost three times the area of its horizontal projection, and its importance is manifested in reducing the intensity of solar radiation and thus lowering the average temperature <sup>(58)</sup>; The curved surface made it a basis for covering, as it was not completely exposed to sunlight during daylight hours, unlike what happens with flat surfaces so that the air in contact with its sunny part is hot while it is cold in the shaded part<sup>(59)</sup>, and the construction of the dome requires symmetry of its walls from all sides to achieve greater stability, by reducing The thickness of the walls of the dome rises to the top, so it gradually tapers as it

approaches its top, and in this way we reduce the weight on its walls and on the walls that rest on it, and as for the Ottoman domes, which are described as low because their height is less than half a sphere.

As for the domes in the traditional houses, they are similar to what was used previously, and it is a continuation of the Iraqi architecture, which has an incomplete hemispherical shape or the so-called half-domes, and the heritage architecture was baptised. The construction of the dome rested on triangular sides decorated with rows of prismatic muqarnas, and this was what was known, as paving raging bricks or paving these muqarnas in the form of a ribbed star.

### **Thirteen: the stairs**

It is considered one of the means that must be climbed, whether it is made of wood, stone, or clay <sup>(60)</sup>, and the ladder (a building consisting of several successive steps that enable a person to move easily from one floor to another).<sup>(61)</sup>

Examples of stairs have appeared since prehistoric times, as in Tell Al-Swan. The excavations revealed the existence of a five-step staircase ( <sup>62</sup>), which is the oldest model in ancient Iraqi architecture ( <sup>63</sup>), and in the city of Ur, excavations revealed staircases leading to the upper floor (<sup>64</sup>) and stairs were used in architecture. An ancient nobility on a large scale and the examples are many and countless, and in Islamic architecture, we have many examples, almost devoid of building a staircase, and the examples that still exist include the Al-Sharabi school (Abbasid Palace), and heritage buildings from the Ottoman period, the stairs were built in One of the corners of the building and are used to raise it to the first floor or the roof of the building.<sup>(65)</sup>

As for the stairs in the heritage buildings, we find that they did not come in a specific place in the building and are of different shapes. It is found once in the form of a spiral in the cylindrical corner tower of the Palace of Flowers and in regular square or rectangular shapes (plate number 12).

### **Fourteen: the bathroom and the Kenaf**

The heritage house includes the bathroom, because the duty of purity requires the Muslim to be clean at all times<sup>(66)</sup>, and the bathroom consists of two rooms overlapping with each other, called the first room (al-Minz'), in which a person takes off his clothes and hangs them on the wall or the bench prepared for sitting, as for the second room It is the bathroom itself, and the bathroom floor is covered either with tiles or alabaster, and there is a (zero) water basin in one of the corners of the bathroom, on which two taps are installed, one for hot water and the other for cold water, and this is available





to the wealthy groups, and most Iraqis in the Ottoman era do not have bathrooms in their homes. It was found that it lacks hot water due to the absence of water basins and the necessary faucets in it <sup>(67)</sup>, while almost a heritage building of the royal era is not devoid of a bathroom and sometimes more than one bathroom.

Heavy water is poured into the cesspool, which is usually opened from outside the building, and the bathrooms are heated using firewood (the blink or calamity) and ignited from a special torch that has a chimney (passes through the wall) through which smoke is thrown out of the house<sup>(68)</sup>

Al-Kunif <sup>(69)</sup> is one of the important parts of the heritage buildings of Baghdad, and no building is devoid of it, and it occupies one of the sides of the building, near the bathroom, or with the bathroom sometimes. They used to call it the House of Purity <sup>(70)</sup>, the people of Yemen and Mecca called it the toilet <sup>(71)</sup>, and the people of the Levant called it the Creed. As for the people of Medina, they called it the Empty House, the Outlet, the Mubarraz, and the Attachment <sup>(72)</sup>, and if it was found on the upper floor, it was called the Karbas.<sup>(73)</sup>

Al-Kunif was also distinguished in the heritage royal buildings that its walls and floors are covered with ceramic tiles (Al-Kashi Furfury), and the water channels that carried the waste were connected to special tanks (sink) dug in the ground and at different depths, and we sometimes find them engraved outside the boundaries of the building units inside the building's external fence, Naturally, it is tightly covered, and we find that the current exits the house and penetrates the walls to transport the waste. to the main sewers in his area as in most buildings nowadays.

### • Conclusions

Perhaps what is gaining importance for Iraq and its heritage is that it is one of the oldest civilisational centers in human history. The soil of this land has witnessed the oldest human experiments and attempts in various types of knowledge, ideas, and literature. The spatial and temporal characteristics and characteristics reach a human life of the highest quality and quantity.

One of the most essential characteristics in Iraqi buildings, whether archaeological or heritage, represents the high ability of Iraqi architecture to absorb the characteristics of the land, the environment, and the functional requirements of the building, and to create harmony between them and the available building materials to reach buildings with a form and content that achieve the best use for humans.





The development of modern architecture made us lose many of these components, such as the lampshades that were replaced by the balcony, and the yard replaced by the inner hall, and some of them, such as the hanging rooms and also the larches, disappeared completely. Its positive benefits that benefit man in the future, which represent the nation's architectural heritage in important periods, had an effective impact on building national civilisation.

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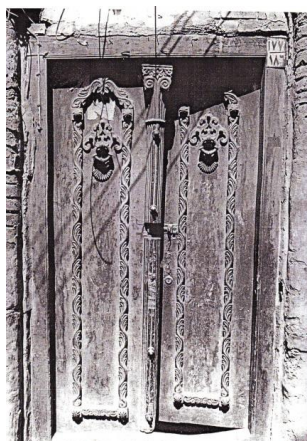




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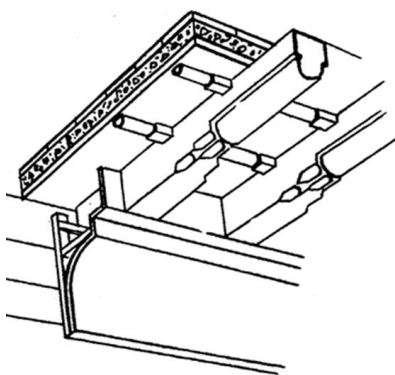


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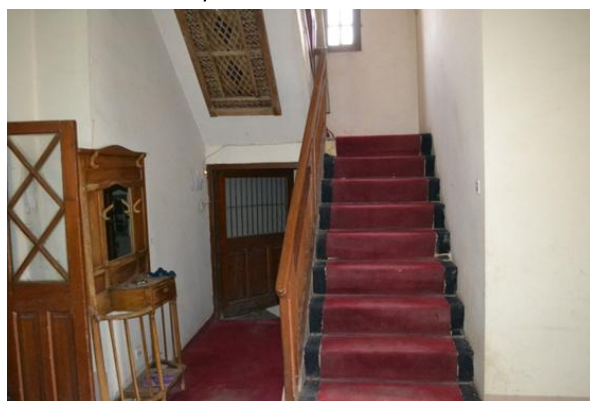


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