General Characteristics of the Assyrian Architecture

Asst. Prof. Faez Hadi Ali, Ph.D.

University of Baghdad, College of Arts, Dept. of Archeology

faazalhesnawy@coart.uobaghdad.edu.iq

07700700796

Abstract:

Throughout ages, Assyrian architecture has been characterized by a number of features that gave it a unique cultural identity which made this architecture named after it. These features, originally arising from the very nature of Assyrian civilization itself, began to manifest clearly from the early second millennium BCE, representing a civilizational renaissance that extended beyond Mesopotamia, to encompass the ancient Near East in general, to the extent that the Assyrian Empire became as a major political power, influencing—and being influenced by—the cultural reality of the regions and states of the Near East. This influence can be observed in the nature, form, and type of architectural remains of the Assyrian civilization, which set it apart from other ancient human civilizations. While many similarities exist among the architectural traditions of ancient cultures, some Assyrian architectural features can be traced back to earlier periods in Mesopotamian history, including prehistoric eras, across successive historical phases and the cultural development associated with them. These developments were not limited to architecture only but encompassed various aspects of daily life. As far as the Assyrian architecture is concerned, which is the subject of this study, it is possible to tackle a set of general characteristics that are closely associated with Assyrian civilization and constituted an integral part of its cultural and historical identity.

Key words: Architecture, Assyrian, Mesopotamia, Terraces, Ziggurat.

Introduction:

Architecture, as one of the most prominent aspects of civilization in general—and perhaps the most important material remains that can be uncovered during archaeological excavations—has always reflected the cultural reality of ancient societies, whether in terms of the nature of the society itself or the economic, social, political, and religious conditions of ancient civilizations. As for Assyrian architecture, which emerged in the northern part of Mesopotamia and developed to become a distinct expression within that civilization, it extended beyond the borders of Assyria, due to the imperial political expansion of the Assyrians, to the extent that it can be found in cities located in central and southern Mesopotamia, as well as in regions beyond its traditional boundaries.

Based on what has been revealed by archaeological excavations at various sites and cities, and according the previous studies, it becomes clear that Assyrian architecture acquired its unique character through a set of cultural factors. These can be summarized as follows, to the extent the scope of this study may allow.

Geographical Location

The geographical location occupied by the Assyrian civilization in the northern part of Mesopotamia had a significant impact on the overall cultural characteristics that generally distinguished it. This influence resulted from the natural environment of that region, which played a significant role in shaping various aspects of daily life. With regard to architecture, in all its branches and forms, it can be said that it was a product of that geographical environment—or,

in other words, it represents one of the most important physical remains left by the Assyrian people, who were influenced by the natural environment of the land known as "Assyria." From this land emerged a human civilization characterized by a distinct cultural identity, which came to define Assyrian civilization in general and its architecture in particular. It is also evident that the Assyrians benefited from the experiences of the peoples who had preceded them in settling throughout Mesopotamia.(1) This is clearly evident in the presence of certain Sumerian and Babylonian cultural elements within Assyrian civilization.(2) It is worth noting that human settlements in the northern region were concentrated in the plains adjacent to the Tigris River on one side, and the rugged mountain ranges on the other, which served as natural passages and routes—particularly from the north and east.(3) Moreover, the human interaction with the natural environment in which they settled formed the fundamental nucleus of their cultural product, which developed over time alongside the social, political, economic, and religious transformations, which ultimately resulted in the emergence of a distinct cultural pattern.(4) With regard to the northern region of Mesopotamia, it was distinguished from the central and southern regions by its rocky soil, which contributed to the stability of river courses. This, in turn, helped preserve the ancient cities in their original locations, such as Ashur, Nineveh, Nimrud, and others. (5) This, in turn, was reflected in the architecture of those cities, as it contributed to the preservation of their building patterns despite the developments that occurred

throughout the three Assyrian periods, whether in terms of architectural styles, construction techniques, or the raw materials used. As a result, the architectural structures well-suited the environment in which they appeared and fulfilled the purposes for which they were originally built.

Most Assyrian cities were built on or near riverbanks.(6) The reason behind this lies in environmental, architectural, and military factors. From the environmental perspective, it was essential to have a nearby water source to ensure the continuity of life in the city. This was not limited to Assyrian cities alone but was true generally to cities across Mesopotamia, where it was customary to build settlements on or near riverbanks. From the architectural perspective, the presence of a nearby water source greatly facilitated construction, whether by providing the necessary water for building activities or by serving as an important means to transport commercial goods and raw materials brought in from other places -- whether inside or outside the land of Assyria -- such as timber and massive stones. Transporting these materials by water was easier than land transportation. From the military perspective, having a river running alongside or near a city provided a natural line of defense, making it well-protected from one or more sides. A notable example of this is the city of Nimrud (Kalhu), which was built by the Assyrian king Shalmaneser I, to serve as both a capital and a military base. Its location -- naturally protected by the mountains and the Tigris River -- gave it strong natural fortifications, which in turn made it a suitable base for launching Assyrian military campaigns into other regions.

Diversity in the Use of Building Materials:

Several building materials were used, with different types, features, and sources. For example, mudbrick (lebbin)[7] was used as a primary construction material in Assyrian buildings. However, it was characterized by its size and dimensions, which distinguished it from the mudbrick used in earlier periods, particularly that of the Sumerian era.[8] Archaeological excavations at different sites across Mesopotamia have revealed several types of mudbricks used in construction, whether in religious or secular buildings. These types varied in specific features such as size, dimensions, and even the inscriptions found on some bricks, let alone the differences in hardness have been noted, which can be attributed to factors such as the duration of sun-drying, the type of clay used, and other materials added during the preparation process.[9] Baked brick (kiln-fired brick) also had multiple uses. It was employed to cover the mudbrick walls in order to protect and preserve them. Moreover, fired brick was used in the construction of platforms and terraces, as well as for paving floors. It was also used in the construction of drainage channels, where bitumen was applied alongside the brick as a binding material. Moreover, baked brick was used for paving exterior courtyards.[10] Baked brick was also used in combination with bitumen in the construction of the *kisu* wall, [11] which surrounds the lower parts of the outer walls of the temple..[12] As for tar, it was used as a binding material and was available in the northeastern regions (east of the Tigris River), as well as in the

northwestern areas such as Hit and Ramadi as well as the Qayyarah region near Mosul.(13)

Stone was one of the important construction materials used in Assyrian architecture. Various types of stone were available in the land of Assyria and they were used as primary building material in Assyrian structures of all types. Most of these stones were available in their natural form, as the natural environment of the region facilitated their availability. This made their use in Assyrian architecture both natural and evident, as reflected in their architectural remains. Among the most prominent types of stone used were: alabaster (also known as "waxy stone"), limestone in its various forms, and marble, among others. These stones were used both in dressed (worked) and undressed (rough) forms, some were employed in the foundations, while others were used as wall panels that depicted remarkable artistic scenes with various themes, including religious, political, and military motifs, as well as royal hunting scenes featuring Assyrian kings.

Wood of various types was also used, some of these types were available within the natural environment of the land of Assyria,(14) while other types were imported from outside the region via trade caravans. This is supported by textual evidence, including letters exchanged between Assyrian kings and regional governors concerning the procurement of timber from areas west of Assyria. One such text states: "To the king, my lord, your servant Tâb-ṣil-Eršâ. Concerning the tree trunks about which my lord wrote to me—there are many, and so my Lord may be pleased with this." (15)Wood was used in roofing, as well as in the production of

furniture. Among the most important types of wood employed were oak, juniper, pine, poplar, willow, walnut, almond, maple, tamarisk, camphor, plane tree (Platanus), pistachio, terebinth, linden, fig, and olive, in addition to other types that were imported from outside the land of Assyria—particularly from the Zagros and Taurus mountain regions. (16) Wood was also imported from the mountains of Lebanon and the Amanus range, particularly cedar wood, which was characterized by its strength, durability, and pleasant fragrance, a material not naturally available in the land of Assyria.(17) As for metals used in Assyrian architecture, the most prominent one was bronze, although other metals such as iron, copper, lead, as well as gold and silver were also used. However, bronze was the most extensive and widespread in use, particularly in cladding palace and temple gates, as seen in the city of Balawat (Imgur-Enlil), in addition to other architectural applications,(18) in addition to other architectural uses.

Planning (Building Orientation, Entrances, and Distribution of Architectural Units)

Planning is a concept, or a set of concepts, that precedes the construction process, and forms the basis upon which buildings are erected in all their aspects, regardless of their function. The idea of planning can be summarized in the following steps: selecting the site, determining the building's area, defining the orientation of the structure, organizing entrances, and distributing architectural units (residential facilities).

We have already addressed the selection of the site; as for the area of construction, it can be determined based on the designated building location, the function of the structure, and the surrounding buildings on all four sides. In Mesopotamian architecture in general, including that of the Assyrians, it was customary for building plans to be oriented in such away that the corners of the structure aligned with the four cardinal directions. This applied to both religious and secular buildings, with very few exceptions.

One such exception can be observed in the city of Nimrud, particularly in the city's ziggurat, the Temple of Nabu, and the palace of King Shalmaneser III[(19)] where the corners of the buildings do not align precisely with the cardinal directions and instead deviate slightly. This deviation seems to be ascribed to the nature of the environment, specifically, the mountainous and rocky terrain in which the city and its buildings were constructed. As a result, the Assyrian architect in this case deviated slightly from the conventional planning of cities and major buildings, in a manner that appears consistent with prevailing religious thought.

As for the orientation of the building, it refers to the direction which is faced by the main entrance, which is supposedly located on one of the façades, oriented toward one of the diagonal directions (northeast-southwest or northwest-southeast). Through a survey of Assyrian building plans, it is revealed that building orientations were not uniform but rather designed according to the building’s location and its surrounding structures.

For example, some temples were oriented northeast, as in the Temple of Nabu and the Temple of Sibitti (the Seven Deities) in

Khorsabad. Some others temples faced northwest, such as the Temple of Sin-Shamash in the city of Ashur, where the temple gate, main entrance, and front courtyard (if available) were situated accordingly. In other cases, buildings had two entrances, one facing northeast and the other northwest, as in some temples, while taking into account that certain temples also had rear entrances, such as the Temple of Ashur in the city of Ashur. In addition, some buildings were oriented toward the southeast, as seen in the Temples of Anu-Adad, Nabu, and the Akitu Temple in Ashur, dating to the Neo-Assyrian period.

Furthermore, as far as the entrances are concerned, the gates and main entrances of Assyrian buildings were distinguished by their monumental scale and aesthetic appeal. Based on several artistic representations, it can be said that the dominant architectural form of main entrances was arch-shaped. Among the most notable artistic works depicting the forms of these main entrances are the stone reliefs of the palace of Sargon in the city of Khorsabad (Dur-Sharrukin) [(20)] as well as the relief of Shalmaneser III from Nimrud (Kalhu).[(21)] As for the interior entrances, they were associated with the internal architectural units, which usually included courtyards of varying sizes, each corresponding to the overall area and function of the building. Surrounding these courtyards were rooms, which also varied in size depending on their location within the building and their specific function.

Main Buildings: (City Wall, Urban Fabric, Urban Core)

It was a tradition in ancient cities to divide buildings into three main categories. The first includes the city wall and its associated architectural components. The second is referred to as the urban core, which comprises the principal buildings and what is known as the sacred precinct. This was one of the key planning styles followed by the inhabitants of ancient Mesopotamia, including the Assyrians, in the design of their cities, namely, separating the main buildings in a specific part of the city, away from residential neighborhoods and other architectural installations. To achieve this, an inner wall was often constructed to separate the principal buildings, what is termed the urban core, from the other parts of the city. (22) Furthermore, in some cases, the min buildings were interconnected, such as a temple or group of temples (temple complex) linked to the royal palace, as seen in the city of Khorsabad.(23)

The third category, referred to as the urban fabric, includes residential houses, workshops, and associated structures.

1. City Walls: (24)

City walls represented an indispensible physical necessity that was unavoidable in any city, to protect it against the threat posed by foreign peoples and neighboring states, which often threatened its security and stability, seeking to exploit periods of weakness and internal conflict to pursue their ambitions.(25) In Assyrian cities, walls were constructed primarily of mudbrick, and archaeological excavations have revealed remains of defensive fortifications in several Assyrian cities. Among these is the wall of the city of Ashur, originally built during the Old Assyrian period and later

reconstructed during the Neo-Assyrian period by King Shalmaneser III (858–824 BCE), who commemorated this work in his royal inscriptions (annals).[26] Another notable example is the wall of the city of Kar-Tukulti-Ninurta,[27] constructed by King Tukulti-Ninurta I (1244–1208 BCE) during the Middle Assyrian period. Built on rocky ground, the wall was approximately 7 meters thick and enclosed the city from the north, east, and west, while the Tigris River bordered it on the west. [28]

From the same period, i.e., the Middle Assyrian era, we also have the wall of the city of Nimrud (Kalhu)**,** which was originally constructed by Shalmaneser I (1274–1245 BCE) and later rebuilt during the Neo-Assyrian period under Ashurnasirpal II (883–859 BCE), who expanded and reconstructed the city.[29] The wall extended for approximately 8 kilometers, encircling the city from all sides. On the side adjacent to the Tigris River, a Masnāh (Arabic: embankment) [30] was constructed using limestone blocks and bitumen, with the thickness of the stonework of about 6.5 meters, and a height ranging between 10 and 13 meters.[31] Similarly, the city of Khorsabad (Dur-Sharrukin), located on the Khosr River [32] is notable for its regular layout, being almost square in shape (approximately 1,760 × 1,675 meters). The city was enclosed on all sides by a thick wall pierced by seven gates.[33] What particularly distinguished these gates was their decoration with winged bulls with human heads (lamassu), which symbolically guarded the city. The number of such figures reached approximately forty.[34] As in other Assyrian cities, the urban core

of Khorsabad was also enclosed by an inner wall, which had two entrances: one on the eastern side and the other on the western side. These entrances were decorated with stone reliefs and winged bulls. (35)

As for the wall of the city of Nineveh, dressed stones were used in its construction, worked in a manner somewhat different from those used in the walls of other cities. The stones were carved in a geometric fashion which made their sides were unequal, with the wider face directed outward and the narrower face directed inward. The purpose behind this technique was to allow for using a larger quantity of binding material (mortar) between the stones. In addition, the thickness of the stones decreased gradually with height, meaning that the base of the wall was wider than its upper part, a method that contributed to the overall stability and durability of the wall, hence the construction will be more cohesive.(36)

2. **The Urban Core (Palaces, Temples, and Ziggurats)**:

Most of the principal buildings, if not all of them, were constructed on terraces(37) a practice that applied to both religious and secular structures. Most of these major buildings were typically elevated above the other buildings of the city. (38) The use of terraces served several purposes, at the top of which is related to religious thought. Raising the structure above adjacent buildings was a tradition in Mesopotamian culture, rooted in the belief that elevation offered protection from evil spirits and symbolically distinguished the building, particularly if it was a **temple** or **palace**, from other nearby structures.

Additionally, the terrace functioned as a suitable platform and foundation which endures the immense weight of these monumental buildings. Moreover, the terrace provided an elevation which makes the construction higher than the surrounding area to protect the structure from environmental elements, such as groundwater, salts, humidity, and chemical reactions within the soil, factors that often impact building foundations and the lower portions of walls.

The use of terraces became a common architectural practice in the construction of principal Assyrian buildings, particularly palaces and temples. Numerous examples may illustrate this tradition. To mention only a few: The terrace used for the palace of King Sargon in Khorsabad (Dur-Sharrukin);[39] The terrace beneath the palace of Shamshi-Adad I in the city of Karana (Tell al-Rimah;[40] The terrace upon which the temple of the goddess Ishtar was built in Ashur;[41] The terrace for the temple of the god Nergal at Tell Haddad;[42] and the temple of Nabu in Nineveh, which was constructed atop a mudbrick terrace approximately 3.5 meters high .[43]

The principal buildings were designed in such a way that suits the functions they were intended to serve and the activities conducted within them. The architectural design typically involved dividing the structure into a set of functional architectural units, each serving a specific purpose. These units were generally separated by a number of primary and secondary courtyards. It is worth noting

that palaces contained a larger number of courtyards than that in temples. This was undoubtedly due to the larger scale of palaces, both in terms of area and structural volume, as well as the greater variety and complexity of activities carried out within their spaces.

The Assyrian ziggurats were among the most significant main buildings in Assyrian cities and were distinguished by specific architectural and planning features that set them apart from ziggurats of earlier eras. Assyrian ziggurats were composed of seven layers, whereas earlier examples, such as the Ziggurat of Ur, [44]consisted of only three layers, and the Ziggurat of Aqar Quf (Dur-Kurigalzu) consisted of five layers. [45] Another distinctive architectural feature of Assyrian ziggurats was that they were cladded in stone rather than in baked brick, because stone had been more in the natural environment of the northern region (Assyria), which made the construction stronger, more durable, and better able to resist natural erosion and environmental degradation. In terms of design, most Assyrian ziggurats, with the exception of the ziggurat at Ashur, were connected to a specific temple, or were integrated into a temple complex, often from one of their sides. Notable examples include the Ziggurat of the god Ninurta in Nimrud (Kalhu) and the Ziggurat of Khorsabad (Dur-Sharrukin).[46]

3. Residential Houses:

The design and layout of houses in Assyrian architecture did not differ significantly from the traditional residential plans typical of

ancient Iraqi houses in central and southern Mesopotamia. The common practice was to adopt the Eastern house plan, characterized by an open central courtyard surrounded by a series of rooms with various functions, such as the kitchen, storage rooms, wash areas, water drainage channels, (47) and the hearth. In addition to the staircases leading to the roof or an upper floor were commonly included, as it is believed that some daily activities were carried out on the rooftops.(48) Regarding the planning of residential neighborhoods, the Assyrians relied on a system of tightly clustered buildings. This compact arrangement facilitated efficient use of available space and formed a socially integrated, self-contained community environment. Such density resulted in crowded settlements, especially in city centers. For example, in the city of Ashur, most residential quarters were concentrated in the southern sections of the city, which subsequently expanded due to the increasing population in the city.(49)

Architectural Elements:

The Assyrian architect employed a variety of architectural elements as secondary components that complemented the overall structure. It is important to note that the use of these elements in the Assyrian structures varied depending on the type and function of the building. Although there some repetitions and similarities in the use of certain elements, such as projections and recesses, columns, staircases, terraces, arches, vaults, balconies, and towers, their inclusion was not universal across all building types. For

instance, specific architectural elements were exclusive to temple architectures, such as the niche (alcove), the altar platform, and the kisu wall, elements that were not typically found in royal palaces, residential houses, or other secular buildings. Furthermore, some elements served for specific functional purposes. For example, crenellated battlements (50) were commonly used along the upper portions of principal buildings, particularly city walls, palaces, and temples. (51) These battlements were also employed atop the fortification walls surrounding cities. Towers, (52) on the other hand, were incorporated into city walls, gateways, and major buildings, functioning as one of the defensive methods against enemy attacks. At the same time, they added an element of aesthetic grandeur to the architecture. It is also possible that such features were designed to mitigate the effects of natural erosion, particularly on the upper sections of the structures.

The Integration of Art into Assyrian Architecture:

One of the main features of Assyrian architecture was the great attention given to artistic elements and architectural decoration, particularly in principal buildings. The Assyrian architect paid great attention to decoration of both the facades and interior halls of structures through two primary forms of architectural ornamentation. The first consisted of wall paintings characterized by their bright colors, often depicting geometric or natural motifs, including vegetal and animal patterns, or a combination of both. The second form consisted of mural sculptures, specifically stone bas-reliefs, which portrayed a wide range of subjects. Some of these reliefs carried religious themes, such as divine symbols,

rituals of libation, the protective winged deity, and ceremonial purification scenes. Others reflected political or military content, including royal coronations, transfer of authority, and the presentation of royal insignia. Among the most prominent military scenes were battles, victories, and the capture of prisoners and spoils of war. In addition, some scenes depicted other aspects of royal Assyrian life, including sports, hunting wild animals, and royal banquets and festive ceremonies.(53)

The walls of royal palaces in Assyria. particularly during the Neo-Assyrian period, were distinguished by their remarkable artistic features, most notably bas-relief carvings, though some wall paintings were also present. The majority of these artistic scenes carried political and military themes, such as battle scenes, victories over enemies, and the presentation of spoils of war. Other scenes were of a religious nature, depicting divine symbols alongside the image of the king, or representing the winged Assyrian protective spirit, a mythological creature. In addition, vegetal and animal motifs of ornamentation were widely employed in the decoration of palace interiors. One of the most notable examples is the mural of King Shalmaneser III in his palace at Nimrud (Kalhu).(54) As for the colors used in these artistic works, they were derived from plant-based or mineral-based sources, and included white, black, red, yellow, brown, green, blue, and gold, along with various shades ranging from light to dark, and vice versa.(55) Among the most creative and iconic artistic elements associated with principal buildings were the so-called composite

creatures, also known as protective spirits (Lamassu). (56) The most famous examples are the winged bulls and other similar figures placed at the entrances of buildings, seamlessly integrated into the structure of the wall itself. These figures carried religious, political, and ideological significance at the same time.

Those large-scale stone reliefs that adorned city walls, gateways, and the facades of temples and palaces, as well as the interior walls and halls of these buildings, were not merely used as decorative elements. Rather, they fulfilled important architectural and communicative functions. Structurally, these massive stone panels provided support and reinforcement to the walls they covered. Furthermore, they also served a as a form of visual communication, projecting the power, grandeur, and dominance of the Assyrian state. These artistic remains, especially the bas-reliefs, present clear insight into the Assyrian people's perceptions and values, reflecting not only aspects of daily life but placing particular emphasis on political and military themes, which were the most prominently depicted subjects.(57)

Conclusions:

1. The geographical location of Assyria was one of its most important cultural features, which greatly influenced various aspects of daily life, not only architecture, but also economic activities. It even enabled Assyria to control major trade routes across the ancient Near East.
2. The walls of all Assyrian temples and Palaces were constructed primarily of mudbrick, with the integration of other materials such as baked brick for floors, drainage systems, Kisû Retaining Wall, and gypsum for wall plastering; and stone and bitumen, both of which were used for flooring, water drainage channels, and wall facings.
3. The use of multiple architectural elements, some of which were fixed in most of the main buildings, if not all of them, such as the buttresses and recesses that were used on the external façades of the main buildings like temples, ziggurats, and palaces. Their use was not limited to external façades but was also used in the central courtyards of temples and in some interior halls of the palaces. The reason behind the use of buttresses and recesses is due to several factors, including supporting the massive and high walls, and reducing the impact of natural factors on the building. In addition, they serve a decorative and aesthetic purpose, represented in breaking the monotony and adding beauty to the plain mudbrick walls. Also, the Kisû wall, which surrounded religious buildings, as well as other architectural elements such as towers, battlements, terraces, platforms, and staircases, were used

in both religious and secular architecture alike, The use of stone columns attached to walls served both architectural and decorative purposes.

4. With regard to the internal design of temples, the Assyrian temples were built according to two systems: the straight axis and the bent axis, based on the models revealed by archaeological excavations.
5. Assyrian architecture was subjected to ideological influences, the most prominent of which was religion. Materially speaking, it was influenced by the natural environment and its resources. The influence of the natural environment appeared in three directions: The first was its direct effect, being a mountainous, solid, and harsh environment that was difficult to deal with. The second, which also had a direct impact, lies in the availability of natural resources, which formed an economic strength that served as an important source of wealth for the Assyrian State. This was one of the main reasons behind its power and greatness, which was reflected in the luxury, grandeur, and beauty of its architecture, matching the demands of the era on one hand, and the available material capabilities on the other. As for the third direction, it was an indirect influence, seen in how the environment affected the character of the Assyrian people, to the extent that they became fond of grandeur and strength.
6. The political side and the nature of the ruling system in the land of Assyria played a significant role in the grandeur of architecture, which became a defining characteristic of Assyrian buildings. The Assyrian kings consistently adhered to this political approach, and were known for their passion for grandeur and self-glorification, alongside the general disposition of the Assyrian people.

7. The use of glazed bricks (also known as glazing) on the facades of palaces and temples, and sometimes on city gates, was one of the most prominent manifestations of the fusion of art with architecture among the Assyrians.
8. The interior spaces of buildings were utilized in a manner that is proportional to the size and function of the structure.
9. Due to the presence of the Tigris River, its tributaries, and the steeply sloped terrain, the Assyrians constructed stone embankments (masnāh), particularly for buildings overlooking the river, especially city walls, to protect these structures from erosion caused by the rapid flow of the river.
10. The Assyrian palaces were distinguished by their monumental size, spacious areas, and the thickness of their walls, let alone their interior outline, which was characterized by the precise distribution of architectural units in accordance with the function of each wing of the palace.
11. The Assyrian ziggurats were more distinguished architecturally compared to those of earlier periods. It used to consist of three layers, while they developed among the Assyrians into five layers during the Old and Middle Assyrian periods, and seven layers during the Neo-Assyrian period, Some ziggurats were distinguished by the presence of a hole or passage in the body of the ziggurat.
12. Despite the multiplicity of Assyrian capitals, the primary status was held by the city of Ashur, as it was regarded as the sacred city and the center of worship of the god Ashur, the national deity of

the Assyrians. This was one of the reasons why the Assyrian kings chose it as their burial place.

13. One of the key reasons behind the strength and grandeur of Assyrian buildings, regardless of their types, forms, or functions, is that most of them were clad in stone, which made them more resistant to natural erosion and gave the structures greater strength and cohesion. The credit for this goes to the natural environment and the variety of stones and rocks it provided.
14. The foundations of Assyrian buildings were mostly composed of two or three layers: the lowest layer was made of mudbrick (leban), followed by a stone layer, and in case there was a third layer, it was usually made of mudbrick as well (Mudbrick + Stone + Mudbrick).
15. The buildings of the Neo-Assyrian period were characterized by being larger, more monumental, and more refined compared to those of the earlier periods (Old Assyrian and Middle Assyrian ones). Therefore, it can be said that Assyrian architecture reached its peak during the Neo-Assyrian period, a time when the Assyrian State reached the peak of its power and grandeur among the civilizations of the Ancient Near East.

Asst. Prof. Faez Hadi Ali, Ph.D.

Endnotes

(1)Will Durant. The Story of Civilization. Vol. 2. Translated by Muhammad Badran, Committee for Authorship, Translation, and Publication, 1958, p. 256.

(2) Forgeau, A. and Others. L̓Art de l̓Antiquité, Gallimard, non, p. 113f.

(3) Adams, R.M. " Factors Influencing the Rise of Civilization in the Upland Illustrated by the Mesopotamia "City Invincible, 1960, pp.54 f.

(4)Henri Frankfort. The Art and Architecture of the Ancient Orient. London: Penguin Books, 1956. p.7.

(5) Tariq ʿAbd al-Wahhab Mazloum and Ali Muhammad Mahdi. *Nineveh*. Baghdad, 1971, p. 11.

(6) The matter is not limited to the Assyrian cities alone; rather, human settlement began near water sources ever since human groups moved from caves to open plains in search of water and pasture. This later facilitated the transition to what is known as the stage of food production… For more on this, see:

Bahnām Abū al-Ṣūf. "Taṭḥīṭ al-Mudun fī al-ʿIrāq al-Qadīm – al-Mustawṭanāt al-Ūlā" ["City Planning in Ancient Iraq – The First Settlements"]. *Al-Madīna wa-l-Ḥayāt al-Madaniyya*, vol. 1, Baghdad, 1988, pp. 117–18.

See also:

Charles Gates. *Ancient Cities: The Archaeology of Urban Life in the Ancient Near East and Egypt, Greece, and Rome*. London and New York: Routledge, 2003, p. 29ff.

(7) Mudbrick (libn) is the term applied to the building material produced by mixing clay with chopped straw (hay), which is usually cut into square or rectangular shapes, using wooden molds and then dried in the sun. Mudbrick pieces are generally uniform in shape, leaving their mark on the building walls, which thus appear regular and with right angles. The use of straw in making mudbrick was intended to enhance cohesion and increase strength, thereby granting the structure greater solidity… See:

Georges Contenau. *Daily Life in Babylon and Assyria*. Translated by Salim Taha al-Tikriti and Burhan al-Tikriti, Baghdad, 1978, p. 53.

(8) A type of mudbrick became widespread during the Early Sumerian period, known as the plano-convex brick; however, it was no longer used in later periods. For more, see:"

Frankfort, Henri. "More Sculpture from the Diyala Region." *Oriental Institute Publications*, vol. 60, 1943, pp. 5–8.

(9) Sauvage, Michel. *Brick and Its Use in Mesopotamia: From Origins to the Achaemenid Period*. Paris, 1999, p. 133.

(10) Ibid, p. 134.

(11) "Kisû (kisû) is a Babylonian term meaning the protective wall or revetment that surrounds a building from the outside in order to support and strengthen it. See":

The Assyrian Dictionary of the Oriental Institute of the University of Chicago (CAD), vol. K, pp. 429–30.

(12)The function of the kisû wall was not limited to strengthening and reinforcing the outer walls of a building. It also had both religious and spiritual significance on the one hand, and architectural importance on the other. It was used to separate the sacred or religious precinct from the surrounding secular buildings, as well as to prevent the entry of evil spirits that might defile the sanctity of the temple or sacred area. For more on this subject, see":

al-Jadir, Walid. "Judūrān al-Maʿābid al-ʿIrāqiyya al-Qadīma al-Mushayyada bi-l-Ṭābuq (al-Kisû)" ["The Walls of Ancient Iraqi Temples Built of Brick (the Kisû)"]. *Sumer*, vols. 1–2, vol. 49, 1997–98, p. 122ff.

(13) Potts, Daniel T. *Civilization of Mesopotamia: The Material Foundations*. Translated by Kazim Saad al-Din, Baghdad, 2006, p. 158.

(14)Postgate, N. *The Land of Assur & The Yoke of Assur* , Oxford, 2007, p. 75 f .

(15)Simo Parpola, *The Correspondence of Sargon II, Part 1: Letters from Assyria and the West*. *State Archives of Assyria*, vol. 1, Helsinki, 1987, p. 85.

(16)Harry Saggs, *The Might that was Assyria*. Translated by Amer Suleiman, Baghdad, 1999, p. 259.

(17)David and Joan Oates, *The Rise of Civilization*. Translated by Lutfi al-Khuri, Baghdad, 1988, p. 24.

(18) Oates, D. "Balawat (Imgur Enlil): The site and its buildings", *Iraq*, vol.36, no.1-2, 1974, p.173F.

(19)Mallowan, M.E.L. *Nimrud and Remains*, vol. 2, London, 1966, p. 373.

(20)Gates, C. *Ancient Cities*, London, 2003, p. 173.

(21)Mallowan, M.E.L. "The Excavations at Nimrud (Kalḫu) 1951", *Iraq*, vol. 14, No. 1, 1952, pp. 4-5.

(22)Frankfort, H. "Oriental institute Discoveries in Iraq, 1933- 34- Fourth Preliminary Report of the Iraq Excavation", OIC, vol. 19, Chicago, 1935, p. 99.

(23)Loud, Loud, G. " Khorsabad, Part. 1, Excavations in the Palace and at a City Gate", OIP, Vol. 38, Chicago, 1936, p. 80.

24 City walls are one type of defensive fortification: high and thick walls (artificial barriers) built of mudbrick, equipped with towers, parapets, and loopholes, constructed around and within cities to protect them from any danger or external attack… For more on this subject, see:"

Muhammad Taha Muhammad al-Aʿdhami, *Al-Awar wa-l-Taḥṣīnāt al-Difāʿiyya fī al-ʿImāra al-ʿIrāqiyya al-Qadīma* [*Walls and Defensive Fortifications in Ancient Iraqi Architecture*], unpublished doctoral dissertation, College of Arts, University of Baghdad, 1992, p. 192.

(25)Millard, A.″Assyrians and Arameans″, *Iraq,* Vol. 45, No. 1, p. 105.
(26)Daniel D. Luckenbill, *Ancient Records of Assyria and Babylonia*, (ARAB), Vol. I, Chicago, 1927, p. 51.

(27)This city is located on the eastern bank of the Tigris, opposite tothe city of Assur, about 3 km to the northeast. It was abandoned after the death of King Tukulti-Ninurta I, and its remains are today known as Tell al-ʿAqr. For more on this city, its history, and the excavations conducted there, see:"

Thomas Eickhoff, *Kar-Tukulti Ninurta: Eine Mittelassyrische Kult-Und Residenzstadt*, Berlin, 1985, p. 15.

(28) Ibid, p. 22.
(29)Lambert, W.G., "The Reigns of Aššurnasirpal II and Shalmaneser III an interpretation", *Iraq*, vol. 1. 36. No. 1-2, 1974, pp. 103- 104.
(30)The *musannāh* refers to stone-paved terraces or steps constructed along riverbanks to prevent soil erosion caused by the strong flow of water, which over time poses a threat to cities and buildings located on the riverbanks.
(31)Mallowan, M.E.L. Nimrud and Remins..., pp. 76-78.
(32) Seton Lloyd, *The Archaeology of Mesopotamia,* p. 231.
(33) Gates, C. *Ancient Cities*, p. 173.
(34) André Parrot, *Assyria*, p. 32. See also:
Antoine Mortet**,** *Art in Ancient Iraq*, p. 160.

(35) Frankfort, H. ""Oriental Institute Discoveries in Iraq, 1933-34: Fourth Preliminary Report of the Iraq Excavation." *Oriental Institute Communications*, vol. 19, Chicago, 1935., p. 99.
(36)Muhammad Taha Muhammad al-Aʿdhami, *Al-Aswār wa-l-Taḥṣīnāt al-Difāʿiyya* [Walls and Defensive Fortifications], pp. 227–228.

[37] It is not possible to be certain about this matter unless the remains of those terraces or artificial platforms are discovered during archaeological excavations. It is clear that some building debris uncovered by excavations was in poor condition and sometimes damaged by erosion, in addition to the problem of overlapping layers, as in the Temple of Ishtar in the city of Assur, whose constructional layers were intermingled in a way that makes them difficult to distinguish. These layers date back to the Early and Middle Assyrian periods. For more on the Temple of Ishtar in the city of Assur, see**:** Walter Andrea, "Die Archaischen Ischtartempel in Assur." *WVDOG*, vol. 39, 1922, p. 21ff.

([38]) Ernst Stromenger. *The Art of Mesopotamia*. London: Thames and Hudson, 1962. p. 438.

([39]) Percy Handcock, Mesopotamian Archaeology, New York, 1912, p. 41..

[(40)]Oates, D. " The Excavations at Tell al-Rimah, 1968", *Iraq*, Vol. 32, No. 1, 1970., P. 18.

[(41)]Walter André, *The New Ishtar Temples in Assur*. Translated by Abdul-Razzaq Kamil al-Hassan, Baghdad, 1986, pp. 131–133.

[(42)] "Excavations in Iraq 1981-1982", *Iraq*, Vol. 45, No. 2, 1983.p.210.

[(43)] Reade J.E., RIA, vol.9, p.410.

[(44)]S.L. Woolley, *Ur Excavations*, Vol. VI: *The Buildings of the Third Dynasty*, London, 1974, pp. 56–57.

[(45)] Roux, G. *Ancient Iraq*, London, 1992, p. 249.

[(46)] Heinrich, E. *Temples and Sanctuaries in Ancient Mesopotamia*, Berlin, 1982. pp.199-200.

[(47)] Drainage channels were typically designed using terracotta pipes placed beneath the floors and walls to take water outside the building. Sometimes, channels were made of brick and bitumen, making the drainage more resistant to moisture and the effects of water-borne salt deposits, as well as allowing them to be either exposed or buried under floors and walls. In Assyria specifically, stone was often used alongside brick in constructing drainage channels.

[(48)]Georges Contenau, *Daily Life in Babylon and Assyria*. Translated by Salim Taha al-Tikriti and Burhan al-Tikriti, Baghdad, 1978, pp. 50–53, 57.

[(49)] Amer Suleiman, "Social Life and Services in Iraqi Cities in Ancient Historical Periods." *Al-Madina wa-l-Ḥayāh al-Madaniyya*, vol. 1, Baghdad, 1988, pp. 204–206.

[(50)] A balcony (or parapet) in architecture is an architectural element that crowns the walls or upper parts of a building. It was used in both religious and secular buildings and usually has a distinctive geometric shape, most commonly a serrated triangular or stepped pyramidal form.

[(51)] Walter André, *The Fortifications of Assur*, p. 263.

[(52)]A tower in architecture is the high visible part of a building that complements it, whether it is a wall, palace, fortress, or temple. Its location is usually at the

gates, corners, or external walls of the structure, and its primary function is to watch and defend the building in case of an external attack**.**

(53) Roux, G. *Ancient Iraq*, London, 1992, p. 351f.
(54)Mallowan, M.E.L. "The Excavations at Nimrud …, pp. 4-5.
(55) Forgeau, et al. *The Art of Antiquity*, Gallimard, Non, p.113f.
(56)The Lamassu are mostly composite creatures, typically with the body of an animal to symbolize strength and grandeur, and the head of a human to represent intellect and wisdom. They were placed at city gates and at the main entrances of palaces and temples, carrying symbolic meanings related to religious, political, and artistic aspects.

(57)Jørgen Laessoe, *People of Ancient Assyria: Their Inscriptions and Correspondence*, non, 1963, pp. 56–57.

Works Cited

Adams, R. M. “Factors Influencing the Rise of Civilization in the Upland Illustrated by Mesopotamia.” *City Invincible*, 1960.

Al-A’zami, Muhammad Taha Muhammad. *Walls and Defensive Fortifications in Ancient Iraqi Architecture*. Unpublished Ph.D thesis, College of Arts, University of Baghdad, 1992.

Al-Jadir, Walid. "Walls of Ancient Iraqi Temples Built of Brick (Kisu)." Sumer, vol. 49, no. 1-2, 1997–1998.

Al-Mazloom, Tariq Abdul Wahhab, and Ali Muhammad Mahdi. *Nineveh*. Baghdad, 1971.

Abu Al-Souf, Behnam. "City Planning in Ancient Iraq - The First Settlements." *City and Civil Life*, vol. 1, Baghdad, 1988.

Andrea, Walter. "The Archaic Ishtar Temples in Assur." *WVDOG*, vol. 39, 1922.

André, Walter. *Assyrian Fortifications*. Translated by Abdul Razzaq Kamel and Nawal Khorshid, Baghdad, 1987.

———. *The New Ishtar Temples in Assur*. Translated by Abdul Razzaq Kamel Al-Hassan, Baghdad, 1986.

Baro, André. *The Land of Assur*. Translated by Issa Salman and Salim Taha Al-Tikriti, Baghdad, 1980.

Durant, Will. *The Story of Civilization*, vol. 2. Translated by Muhammad Badran, Cairo, 1958.

Eickhoff, Thomas. *Kar-Tukulti Ninurta: A Middle Assyrian Cult and Residence City*. Berlin, 1985.

Forgeau, A., et al. *The Art of Antiquity*. Gallimard, n.d.

Frankfort, Henri. *The Art and Architecture of the Ancient Orient*. London, 1956.

———. "More Sculpture from the Diyala Region." *Oriental Institute Publications*, vol. LX, 1943.

———. "Oriental Institute Discoveries in Iraq, 1933-34: Fourth Preliminary Report of the Iraq Excavation." *Oriental Institute Communications*, vol. 19, Chicago, 1935.

Gates, Charles. *Ancient Cities: The Archaeology of Urban Life in the Ancient Near East and Egypt, Greece, and Rome*. London and New York, 2003.

Gelb, Ignace J., et al. *Chicago Assyrian Dictionary*. Oriental Institute of the University of Chicago, Chicago, 1956 and following.

Handcock, Percy. *Mesopotamian Archaeology*. New York, 1912.

Heinrich, Ernst. *Temples and Sanctuaries in Ancient Mesopotamia*. Berlin, 1982.

Ibn Manzur, Abu al-Fadl Jamal al-Din Muhammad ibn Makram. *Lisan al-Arab*, vol. 2, 1st ed., Beirut, 2005.

Kontinio, George. *Daily Life in Babylon and Assyria*. Translated by Salim Taha Al-Tikriti and Burhan Abdul-Tikriti, Baghdad, 1978.

Laessoe, Jørgen. *People of Ancient Assyria: Their Inscriptions and Correspondence*. Non, 1963.

Lambert, W. G. "The Reigns of Aššurnasirpal II and Shalmaneser III: An Interpretation." *Iraq*, vol. 36, no. 1-2, 1974.

Loud, G. "Khorsabad, Part 1: Excavations in the Palace and at a City Gate." *Oriental Institute Publications*, vol. 38, Chicago, 1936.

Luckenbill, Daniel D. *Ancient Records of Assyria and Babylon*, vol. 1. Chicago, 1927.

Mallowan, M. E. L. *Nimrud and Remains*, vol. 2. London, 1966.

———. "The Excavations at Nimrud (Kalhu) 1951." *Iraq*, vol. 14, no. 1, 1952.

Millard, A. "Assyrians and Arameans." *Iraq*, vol. 45, no. 1, London, 1982.

Murtkat, Antoine. *Art in Ancient Iraq*. Translated by Issa Salman and Salim Taha Al-Tikriti, Baghdad, 1975.

Oates, David, and Joan Oates. *The Rise of Civilization*. Translated by Lutfi al-Khuri, Baghdad, 1988.

Oates, David. "Balawat (Imgur Enlil): The Site and Its Buildings." *Iraq*, vol. 36, no. 1-2, 1974.

———. "The Excavations at Tell al-Rimah, 1968." *Iraq*, vol. 32, no. 1, 1970.

"Excavations in Iraq 1981-1982." *Iraq*, vol. 45, no. 2, 1983.

Postgate, Nicholas. *The Land of Assur & The Yoke of Assur*. Oxford, 2007.

Porpola, Simo. "The Correspondence of Sargon II, Part 1: Letters from Assyria and the West." *State Archives of Assyria*, vol. 1, Helsinki, 1987.

Qader, Walid. “Walls of Ancient Iraqi Temples Built of Brick (Kisou).” *Sumer*, vol. 49, no. 1-2, 1997-1998.

Reade, Julian E. “Nineveh.” *Reallexikon der Assyriologie*, vol. 9, 1998.

Roux, Georges. *Ancient Iraq*. London, 1992.

Sauvage, Maurice. *Brick and Its Use in Mesopotamia: From Origins to the Achaemenid Period*. Paris, 1999.

S Saggs, Harry. *The Might that was Assyria*. Translated by Amer Suleiman, Baghdad, 1999.

Suleiman, Amer. “Social Life and Services in Iraqi Cities in Ancient Historical Times.” *City and Civil Life*, vol. 1, Baghdad, 1988.

Stromneger, E. *The Art of Mesopotamia*. Thames and Hudson, London, 1962.

Potts, Daniel T. *Civilization of Mesopotamia: The Material Foundations*. Translated by Kazim Saad al-Din, Baghdad, 2006.Utts, David, and John. *The Emergence of Civilization*. Translated by Lutfi Al-Khouri, Baghdad, 1988.

Woolley, Leonard S. *Ur Excavations*, vol. VI: *The Buildings of the Third Dynasty*. London, 1974.