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Ancient Egyptian Houses during the Period of the Pharaohs Fayha'a Kadhim Jahy

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Abstract

Concrete evidence showed that civilization in the old Egypt had flourished due to a number of factors, most importantly the geographic factor. Geography had the greatest effect on facilitating the necessary elements to establish a civilized and prosperous state at the political, economic and urban levels. Undoubtedly, the most important element was the Nile River, without which Egypt would have been a desert.

The Egyptians created the science of geometry and were innovators in building palaces and houses, starting from tablets to building large houses and palaces. Ancient Egyptians used materials that were brought from Canaan. They used plants such as wood and papyrus, as well as clay and stone such as marble and granite. All these factors, in addition to the availability of the workforce, helped in producing artistic constructions for building houses.

Key words: cottages, houses, ancient Egypt, papyrus, wood, construction material, stairs, gardens.

Introduction

The subject of the ancient Egyptian building has taken a large part in the ancient Egyptian historical studies since it has a great impact on the Egyptian civilization. This aspect of the Egyptian civilization has been chosen to be the subject of the current study, as the house played an important role in the ancient Egyptians daily lives, having a close connection to their livelihood. The focus of this study is on houses of the public, rather than places of kings and noble people of the state.

Aims of the Study

This study aims at providing answers to a set of questions:

- What are the construction materials used in building ancient Egyptian houses?

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- What are the shape and architectural designs of houses in ancient Egypt?

- Was house construction in ancient Egypt impacted by other culture, or it was pure Egyptian innovation?

Hypothesis of the study

All responses to the aforementioned questions may represent, at their lowest limits, our hypothesis of the study, which may lead to results that provide knowledge about the geometrical development in building houses in the ancient Egypt. This promoted us to investigate facts by resorting to sources from ancient Egypt to understand the impact of economic prosperity and political stability on making horizontal and vertical development on the ancient Egyptian architecture.

Significance of the Study

The importance of the study lies in shedding light on the developmental stages in building houses in Egypt from cottages to modern and luxury houses and palaces, which is consistent with the intellectual development at that time.

Procedures

The study was divided into several sections. The first section is entitled "Impact of Geography of Ancient Egypt on Architecture". The section reviews the topography and geography on ancient Egypt and its effect on prompting people to settle in Egypt and build their houses, starting from cottages and simple houses to luxurious palaces. The second section is entitled "Material used in Building Houses in Ancient Egypt". It tackles the materials used by ancient Egyptians to build their houses including wood, papyrus, clay bricks, stones, lime, granite, marble and basalt. To deal with such raw material, ancient Egyptians uses such tools as hammer, ax, rope and ruler, which were basic tools in the construction of houses, temples and palaces. The last part is entitled "Shapes of Houses in Ancient Egypt". It sheds light on the shapes of houses and its development in ancient Egypt, from simple cottages to large and luxurious houses.

SECTION ONE

"Impact of Ancient Egypt Geography on Architecture"

Concrete evidence indicates that ancient Egyptian civilization began long before historical ages and continued flourishing after that for 4000 BC. Geography was the main factor contributed to this civilization, most importantly the passage of the River Nile through

Egypt, without which Egypt would have been a barren desert similar to the areas around it from the west and east. The banks alongside the river became pastures for cattle (1) [Saif Al-Din, Ibrahim et al, Egypt in Ancient Times, p1-2].

Egypt is the most full-fledged civilization know and was deeply rooted in history. It dates back to 3200 BC, as evidenced in the Narmer Palette, which is 14 cm high. This Palette was found in Hierakonpolis in the upper Egypt. This palette was established during the reign of Narmer 1 and was considered as the first evidence of the existence of a political system in ancient Egypt that was interested in urban and economic progress [Lalote, Pharoahs in the Ancient Egypt Kingdow and Deity Kings, 2010, p. 18-19].

Climate change had affected the settlement of people in ancient Egypt; consequently, this gradually affected peoples' habits. Carved paintings were found on flint stones showing scenes of animal hunting. Shifting from hunting for food, however, to food production had not occurred suddenly. It started with people settling along the river and building their primitive cottages there, where they started to cultivate the land around them and subsisted on their crops [Aldred, Ancient Civilization from prehistory Egypt to the End of Ancient Kingdom, Cairo 1986, p. 43]

Ancient Egyptian Architecture was influenced by geographic and human factors. Geography impacted the geometry used at that time. The river Nile was the easiest means of transportation and the oldest records show boats of many oars were used as domiciles in the pre-dynasties era. These boats were also used to transport building materials to the upper and lower Nile in a short time [Valbelle, People and life in Ancient Egypt.].

Herodotus stated that ancient Egyptians innovated geometry and the of measuring land. They also delineated lands by using a thread of 100 arms (one arm equals 52 cm). During the reign of Pharaohs, Egyptians used this thread accurately when building temples, palaces and simple houses to identify the four angles of a building base and foundation [Obeni, Geometry in Ancient Egypt; Cairo 2008; p. 25].

SECTION TWO

"Materials and Tools Used in Building Houses in Ancient Egypt"

Ancient Egyptians used a variety of natural construction materials, including:

a. Papyrus.

This plant was used in building since the ancient kingdom; it was mentioned in texts in various shapes such as the papyrus shaft and reeds, etc. [Noor Al-din Abdul Halim. Old Egyptian Language. Cairo 2011, p. 283]

b. Common reeds (phragmites) and Juncus.

The common reed is a kind of perennial moisture-loving plant, with its roots deeply rooted in the ground. Sometimes reaching to five meters high, the common reed was used for a long time in making coffins, chairs, and boats, as well as building houses. [Saad Shukri: Ancient Egypt Plants; 1988; p. 61]. The common reed was referenced to be used in building the inner side of pyramids. In "The book of Dead" it was referred that "there is a Kiosk made of twisted common reed" [Budge: The Book of the Dead; 1998; p.178].

c. Wood.

Date palm wood was especially used for building by ancient Egyptians. Wood was used as buttresses for ceilings, and this was one of the reasons that date palm was cultivated in Egypt since a very long time. In the Old Kingdom, it was named 'bak'. [Salim Hasan; Ancient Egypt; 1992; p. 69].

d. Unbaked clay.

It was called 'dbt' in old Egypt, and then called 'Twbe' in Coptic; then 'Tub طوب' in Arabic. The oldest mention of the unbaked clay was cited in pyrimds texts- Spell no. 533 "let the two compartments of clay be high" [Simpson: Literature of Ancient Egyptian. London; 2000; p. 44]. The unbaked clay was also cited on a plate that dates back the Middle Kingdom; it states " Now, I established this cemetery in Abydos from unbaked clay, which I made." [Spencer, Brick Architecture in Ancient Egypt. London, 1979; p.4]. Texts from the modern Kingdom also mentioned the unbaked clay and its uses. A text from the reign of Thutmose III states "Unbaked clay was made to build a new store for the Karnack Temple". Another text was found inscribed on a wall near the Cemetery of Rekhmire. [Badawi, History of Egyptian Architecture; p. 20.].

e. Stones.

The stone was called 'inr' in Old Egyptian, in both the old and modern kingdoms. Egyptians used a number of stones in building including granite, marble, basalt, sandy limestone and limestone. [Mohammed Mubarak, Tools and Materials Used for Building by Ancient Egypt; p. 10]. It seems that stones were found in quarries known as Ṡ3d in the Old Egyptian language, which is a a name of mountain in Sinai. Many

titles were associated with those working in quarries such as quarry workers, quarry foremen, etc. [Al-Sudani, Mines and Quarries in Ancient Egypt; p. 171-174]. This variety of suitable stones helped architects to implement construction programs, some of them way ahead of their times. Granite and Latium were used to increase surfaces to apply slabs for ceilings supported by lateral walls of granite. [Nood Al-Din Abdul Halim, Ancient Egyptian Language; p. 49]. The Old Egyptian language contains names of tools used for construction. The axe is called 'P' and the slab is called 'h b s . Egyptians also used the adze 'krdu' to carve wooden surfaces easily. The adze was used in a text in an advice of a man for his son "Each artisan using the adze is more tired that a farmer.[Emad Ahmed Alsayad, The lower classes of the Ancient Egyptian Society; p. 14]. Hammer and punch were also used by Egyptians to cut stones, as cited in pyramids texts. The ruler was another tool used for measuring as mentioned in the autography of the engineer Nakhbu. He stated "I was supervising masons and used the ruler for measuring. [Ahmed Mahmood, Construction Tools and Materials; p. 31]

Construction workers and their role in building houses

In old Egyptian language, a construction worker was called 'kdw' during the Old Kingdom and up to the Middle Kingdom. He was also called 'Kdwns3t' the name k3wty was also used . The construction foreman was called 'imy kdw' or K3wty to denote to construction workers of temples and funeral buildings. This name was confined to workers using stones in their construction because it went in line with the word 'inv' . This was shown in a temple as follows: "k3wtymninr"; that is Construction workers in stone [Adolf Erman, Egyptian Daily Life in Ancient Times, 1952; p. 5541].

It seems that the workers and masons were a majority in the Nile Valley and most of them were living in dispersed villages along the Nile River. The upper class used to portray the activities of workers and artisans on the walls of their cemeteries, as was the case of Akhmbar, Minister of Thutmose III. He used to oversee work at the Amun Temple to make sure of the progress of work there [Ahmed Badawi, History of Education in Ancient Egypt; p. 52].

Undoubtedly, masons and builders played a significant role in the history of ancient Egypt. Some of their buildings have still remained to prove the Egyptians mastering of geometry. Some other buildings, which were mainly made of unbaked mud had disappeared such as houses, administrative buildings and silos. The structure of these buildings were made of unbaked mud mixed with wood dust, which were dried in the sun. On the other hand, the buildings of the other world such as cemeteries and temples were often built of stones,

especially lime stones, which have stood the ravages of time. [Black Moner: History of Interior Design and Future, 1996; p.100].

SECTION THREE

Design and Development of Houses in Ancient Egypt

The ancient Egyptians much respected the place in which they lived. They were so keen to equip it with all means of comfort and safety. The design and content of houses were varied according to the economic situation of the people who owned and lived in it. The ancient Egyptian used to live in a simple house built of unbaked clay and wood. Mostly, the house was large and had many ventilation openings, doors and windows. It contains an entry, hall, dining room and drawing room. In the rear part of the house, the bedroom, bathroom and latrine were found [Muhram Kamal: Family and Domestic Life in the Egyptian Civilization History; p. 146-147].

The system of house construction was gradually developed and improved. According to Marmara bin Salama, three stages can be found:

1. The old stage: no traces of houses left

2. A second stage: remains of houses left as shown by holes of burns in ceilings and walls.

3. A third stage: simple oval houses. These houses were built of unbaked mud and common reeds, as well as tree twigs. The houses were small- 1 m * 1 m; 3.2 m * 2 m. Herman believed that the system of houses in Marmara was the oldest planning known for villages. [Abdul Aziz Salih: Civilization in Egypt and Its Impact; Cairo 1990; p. 49.]

Before the Dynasty Era, houses were built of tree twigs and mud and they were simple in design. In the next stage, rectangle house were designed and ceilings, doors and windows were used. Houses were made of several rooms and furnished with fireplaces and stores equipped with pots. Metals were used to build housed from dried mud and stones, and this was considered a development in the art of building. Wood logs were used as structures to hold ceilings. Fireplaces were placed in houses based on the direction of winds to avoid fires and damages. Some of houses were semi-circular or oval, while others were rectangle. Other houses were found under the ground where stairs were built to get down to them. In other place, a square house was found built of mud, and this is our evidence that houses in Egypt in old times were found in cemeteries and graveyards. [Qais Hatim: Role of Attendants and Followers in the Ancient Egyptian House; 2014: p. 53]. Generally, it is believed that circular cottages were used before

the Dynasty Era in rural areas, while rectangle houses built from unbaked clay and wood were used in cities.

House differed in shape, size and type, according to the social status of the ancient Egyptian. Some houses were very large and has several separate rooms, luxurious bathrooms and furniture. This luxury was shown on the walls of Hesy-Ra Cemetry, which was built in early Third Dynasty. These representations and other artifacts found indicate that such houses were used in the old era. [Walter Amri: Egypt in the Old First and Second Dynasties; p. 228-229].

Ceilings were built for temples and royal palaces and were surrounded by strong and high walls of stones and leading to gardens. The gardens, which were used by ordinary people, were divided into squares and rectangles vertically intersected. Vine trees and flowers were grown and where highly cared for by the Egyptians. Anna cultivated his garden all kinds of trees that were grown in Egypt such as date palm, coconuts, vines, pomegranates and many others [Pierre Monnet: Daily Life in Ancient Egypt; Hofmann & Jeffries, 2022).

Consequently, houses in ancient Egypt can be classified into two categories; the first was the large houses and estates, and the second was the simple houses where families live. Clergy houses cover vast areas amounting to 2400 m2 and consisted of separated rooms, kitchens, stores, etc., and there are special doors for servants. Such houses consisted of a room for the common people, and the rest of rooms are distributed in such a way to easily go through the wings of the house. There are also guest rooms and rooms for meetings. Additionally, there were a small hall with four columns, which might be used by the owner of the house as a special office.

The houses of Amarnah were built on areas of less size than those mentioned above. The average of a house area was 1200m2, but the area of the walled garden was 2000-4000m2. One can notice that architecture elements that denote civilization and power were present in the house: the high gates, huge stairs, entries with ceilings, and guest rooms, among other means of comfort. [Valebelle: People and Life in Ancient Egypt; p 127-128].

It seems that construction of house was a kind of trade for ancient Egyptians. During the Old Kingdom, contracts of sale of houses were found inscribed on stones near the sold houses; but history scholars were not in agreement about whether it was a house of a cemetery! Other two contract were written on papyrus near the village of Jabalein in lower Egypt dated to the fourth Dynasty. In the first contract, the length of the house was 16 arms and its width was 15 arms, with an area of 56m2. It was bartered with 15.5 arms of fabric, but its monetary value was not mentioned in the contract. The other

contract was for another house of 16m in length and 11m in width and a total area of 40m2. It was bartered for 24 arms of fabric. [Valebelle, People and Life in Ancient Egypt; p. 94-95].

Conclusions

The conclusions of this study can be listed as follows:

1. The role of houses in ancient Egypt was very important, starting from caves near the Nile River up to vast areas.

2. Houses and rooms were different from one place to another, based on the design of engineers and nature of terrain.

3. The role of masons and builders and the specifications of building materials were very important in keeping houses strong over time.

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