

The "Pharaonic Column" As Seen by the Pharaohs – (A Free Standing Architecture)

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Abstract: Ancient Egyptians have left many examples of ruins and discovered buildings that clearly reveal their "Extensive" use of the column as an independent and free standing architecture. The research paper is an attempt for understanding how ancient Egyptians implemented the concept of the column beyond its common use as a structural element. The paper is investigating the implementation of the "Pharaonic" column as a free standing architecture in ancient Egyptian; religious, domestic, military, and administrative buildings. Also, in many of their standalone work of architecture like; avenues, courtyards/plazas, gates, and arcades. Although ancient Egyptians built arches and vaults to carry loads and ceilings; it seems from the examples investigated in this paper that using the column as a structural element was not their major concern at the first place. They were creating visual impressions reflecting the greatness and holiness of their kingdoms through using the "Pharaonic" column as a chief architectural element that does not need to be associated with a building. Unlike other ancient civilizations like the Roman, and Greek empires where columns were mainly used as structural elements, before being used as architectural elements for expressing their ruling power, or as decorative components.

Keywords: Pharaonic Columns, Egyptian Column, Ancient Columns, Column Architecture, Column Concept

1. Introduction

In general, ancient civilizations gave great attention to columns, either for structural or decorative purposes, however, each of these ancient civilizations did not produce a variety of column design styles, for example; the Greek civilization did not produce more than three column styles which are: the "Doric", the "Ionic", and the "Corinthian" styles. The roman civilization produced the "Tuscan" column only, while they remained using the Greek three column styles after making slight adaptation to their building needs. Unlike the "Pharaohs" who developed a great number of column styles varying from square, circular, and up to 16 sides polygonal columns, and with different crown designs, cross sectional dimensions, heights, and building material [1-3].

Most architectural and archaeological studies are researching; Types, styles, building material, carving techniques, and building technologies of the "Pharaonic" column. Architects also refer back to "Pharaonic" columns

when they need to extract a motif or an architectural element from the Egyptian ancient civilization. Until recent times, it is a common knowledge among architects, builders, and archaeologists that the Pharaohs have placed their columns near each other to ensure that they will be able to successfully carry the heavy weighted beams and structures above. While, the "Pharaonic" column is rarely seen as a "Standalone" or "Independent Architecture".

Such great variety in the Egyptian column designs, styles, characteristics, and building techniques may explain the reason why ancient Egyptian architects and builders themselves have seen and used their columns as independent standalone emblems and pillars like "Obelisks", before using them as columns carrying above structures

2. Literature Review

The literature introduced in this paper is not for the

purpose of discussing "Pharaonic" column types, styles, motifs, materials, building technologies, or history; as these aspects were covered by researchers in many other studies. The paper investigates the "Pharaonic" column as seen by ancient Egyptian architects in the first place.

3. Research Goal

The goal of this research paper is to introduce an understanding about how ancient Egyptians saw and implemented the concept of the column beyond its common use as a structural element.

4. Research Scope

Architecture of the "Pharaohs" is very complex, diverse, and vast in nature, when compared to those of other ancient civilizations, and despite many stolen, damaged, and that was not yet found of what they left behind; a great deal of their discovered work of architecture remain intact, especially columns with their complementary architectural elements, and their relationship in regards to various ancient Egyptian building types,- that managed to exist until today. Ancient Egyptians have left many examples of ruins and discovered buildings that are vividly implying to their extensive use of the column as an independent and free standing architecture, such privilege encouraged the research to focus on investigating their use of the column from this perspective.

5. Method

For the research to fulfil its goals: at first, it starts with a general overview of the common use of columns in building and construction. Followed by; a brief exploring the use of columns in ancient civilizations, "Pharaonic" columns characteristics, and building techniques, afterwards; the research discusses the visual relationship of the "Pharaonic" column to the building it belongs to. Then, the research investigates examples of the implementation of the "Pharaonic" column as a free standing architecture in ancient Egyptian; religious, domestic, military, and administrative buildings. Also, in many of their standalone work of architecture like; Avenues, courtyards/plazas, gates, and arcades.

6. Discussion

6.1. Overview

Throughout the history of building and architecture; a "Column" or a "Pillar" is commonly known among

architects, builders, and civil engineers as a structural component that is playing an important role in the equilibrium of the construction system of a building. Columns carry weights of several floors of a multistory building.[4]

Acting as a structural element; the main function of a column is to transfer loads coming from the above floors carried by such column into the foundations of the building, then, the later in turn distributes these loads into the soil beneath.

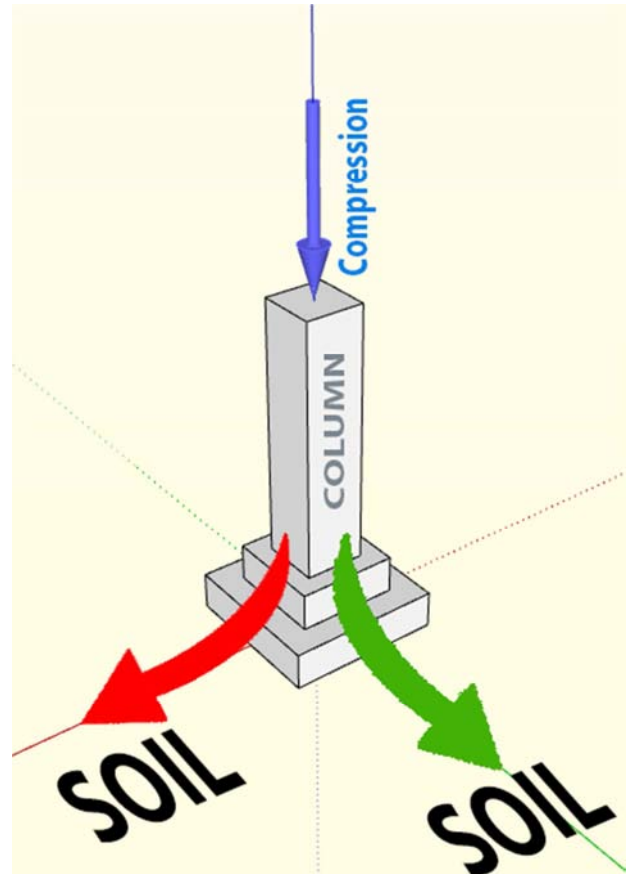


Figure 1. Is a schematic showing the main function of a column that transfers loads coming from the floors above carried by such column into the foundations of the building. Then, in turn; distributes these loads into the soil beneath, Reference: [Researcher].

6.2. Columns in Ancient Civilizations

In many ancient civilizations for example; the Roman, and Greek empires, columns were also used as architectural elements for expressing ruling power, and as decorative components, in addition to their main function as structural elements.



Figure 2. Is an example showing Roman columns used as decorative components, in addition to their main function as structural elements. Image is of the "Building of the US Supreme Court in Washington", Reference: [5].

6.3. Pharaonic Columns Building Techniques

At first, Pharaonic Columns were crafted from a single large monolithic block of stone, limestone, or granite. Later on, Pharaonic columns were composed of cylindrical disks, and sometimes polygonal shaped sectional blocks stacked over each other to form the whole body of the column. Then, writing and painting the column body made it difficult to recognize such sectional pieces.

6.4. Pharaonic Columns Characteristics

In general, the main characteristics of the Pharaonic Column are:

The form of the column crown and shaft is inspired by the shape of tree trunks, bundled reeds, plants stems, flowers, and lilies, all driven from the Egyptian plant species specially "Lotus" palms growing by the sides of the river "Nile".

Painting parts or all of the column body and crown with colors, unlike other ancient civilizations where columns colors are the natural colors of the materials where they were carved from

Writings and drawings over the column body documenting victories, events, contributions of their kings and pharaohs, their belief system and religious ceremonies, and their royal and social traditions

Ancient Egyptian columns were the most types of columns that are rich with shapes and styles when compared to those of other ancient civilizations, especially Roman and Greek columns.¹

1 A common classification of Egyptian column styles: (1) Fluted or Polygonal Columns; Like those of the "Hatshepsut's" mortuary temple in "Deir El-Bahri", (2) Lotiform Columns; Found in the tomb of "Khety, Beni Hasan", (3) Tent Pole Columns; A rare example that still exists until today is that of the "Festival Temple" of "Tuthmosis III" in "Karnak", (4) Palmiform columns; Found in The "Temple of Hibis" of the pharaoh "Psamtik II", (5) Papyriform columns: As that of the "Djoser's" Complex at "Saqqara". (6) Coniform columns: Found in some Ruins of the Pyramid of "Sahure", (7) Composite columns: Like those of the "Kom Ombo" Temple in Egypt. (8) Hathoric Columns: At the temple of "Dendera", and (9) Osiride Pillars: The Great "Fallen Colossus", The "Memnonium", in Thebes, Luxor, Egypt. [3, 6]

6.5. The Pharaonic Column Visual Contradiction

Unlike Roman or Greek buildings where a single column style or variation is repeated on the same façade; Ancient Egyptian architects bravely challenged and contradicted common architectural theories of visual harmony, order, and "Same look and feel visual effects"; They courageously used more than a single column variation and style in the same building façade.



Figure 3. Is showing several Egyptian columns with different architectural crown styles all Assembled in one façade. Image Is that of the Temple of Horus "in Edfu," Egypt. Reference: [7].²

Moreover, for a visitor, it is difficult to imagine for example; the temple "Karnak" without Pylons, Statues, and/or "Columns". However, if a Pharaonic column will be detached from its building or façade; it may remain visually appealing for both specialists and tourists to exist as a "Standalone" master piece of architecture by itself similar to an "Obelisk". This is might be due to the fact that in ancient Egyptian civilization the column represents a chief architectural element with its vivid colors, details, height, and carved stone material.

On the other hand, if a Roman or Greek column will be detached from its building or façade; it will appear isolated

2 Photography credentials to "Florentina Georgescu" at Getty Images

and visually weakened although it has its own strong detailed and eye-catching crown and body. This might be because Roman and Greek columns are representing an extension and essential component of the overall heavy-detailed decorative mosaic that are spreading and covering the entire parts of their buildings. A Corinthian or an Ionic column cannot exist alone without its supplemental “Entablature”, in order to complete the decorative mosaic and the visual picture, but a Pharaonic column can solely exist without anything above, attached to, or below.

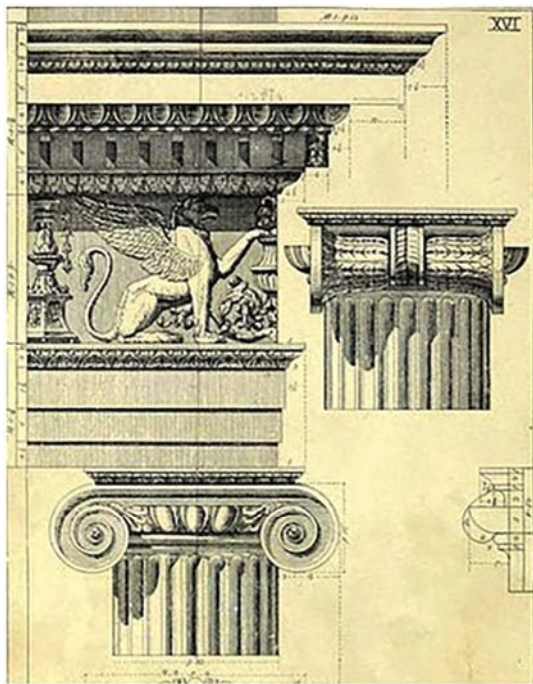
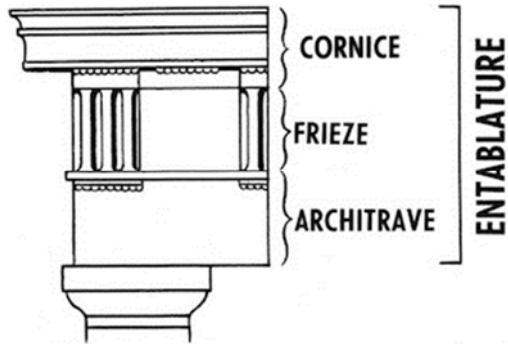


Figure 4. Is showing a diagram and illustration of the “Entablature” component. Area above an Ionic column, Reference: [8]³.

6.6. The Pharaonic Column - A Free Standing Architecture

Ancient Egyptians build columns in the first place as free standing and primary architectural elements with no structural purpose in mind, Surprisingly; Even in their largest, tallest, heaviest, and most stable construction of their

3An “Entablature” is a series of horizontal building component bands constructed above Ionic and Corinthian columns, and also decorating their building façade capping

all times, the great "Pyramid" of "Khufu" in Giza, Egypt; There are almost no columns used inside, despite the fact that it contains many rooms with large spans that -According to modern structural and civil calculations - should be in need for columns to support its heavy ceilings.

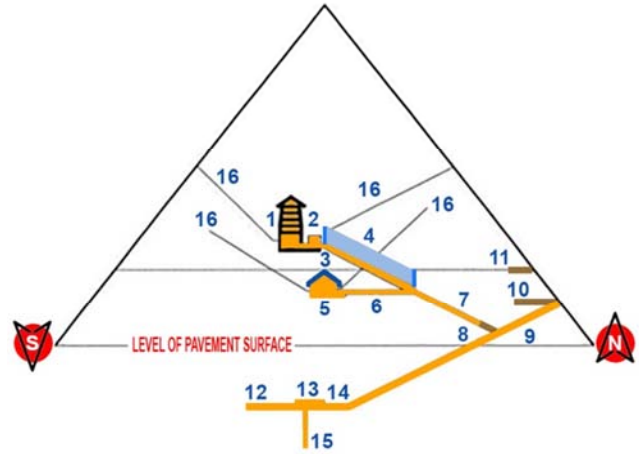


Figure 5. A Sectional diagram illustrating interior spaces of the Khufu pyramid of Giza, Egypt. Reference: [9]⁴.

Moreover, ancient Egyptians have excessively used columns as free standing architectural elements in the majority of their building types; Their religious, domestic, military, and administrative buildings. Also, in many of their standalone work of architecture like; Avenues, courtyards/plazas, gates, and arcades.

6.6.1. Ancient Egyptian Columns in Religious Buildings

One of the strongest examples that vividly reflect their understanding and use of the column as a primary architectural element in religious buildings are those of the "Karnak" temple in Egypt.

The following figure is that of the large columns of the "Great Hypostyle Hall" in the Precinct of "Amon-Re" ⁵, it shows a series of large columns standing to form a visual sequence without a potential presence of a ceiling or roofs above, because if there were roofs above that might be disappeared due to a natural catastrophe like an earthquake, then the columns are more likely to fall before the roofs they carry.

4 The illustration shows: (1) King’s Chamber, (2) Ante Chamber, (3) Great Step, (4) Grand Gallery, (5) Queen’s Chamber, (6) Passage to Queen’s Chamber, (7) Ascending Passage, (8) Granite Plug, (9) Entrance Passage, (10) 19th Course of Masonry, (11) 35th Course of Masonry, (12) Dead End Passage, (13) Subterranean Chamber, (14) Passage to Subterranean Chamber, (15) Pit, (16) “Star Shafts”. Original image in "Figure 5" is re-colored and enhanced by [Researcher]

5 The "karnak" temple –around 2.5 kilometers from the city of Luxor - is part of the ancient city known as "Thebes", it is believed that the temple was built during the era of "Senusert I" of the "Middle Kingdom" and continued to the "Ptolemaic" period. The temple consists of four major precincts: The Precinct of "Amun-Ra", the Precinct of "Mut", the Precinct of "Montu", and the dismantled Temple of "Amenhotep IV", together with few smaller temples and ruins connecting the Precinct of "Mut, and the Precinct of "Amun-Re" to "Luxor" Temple

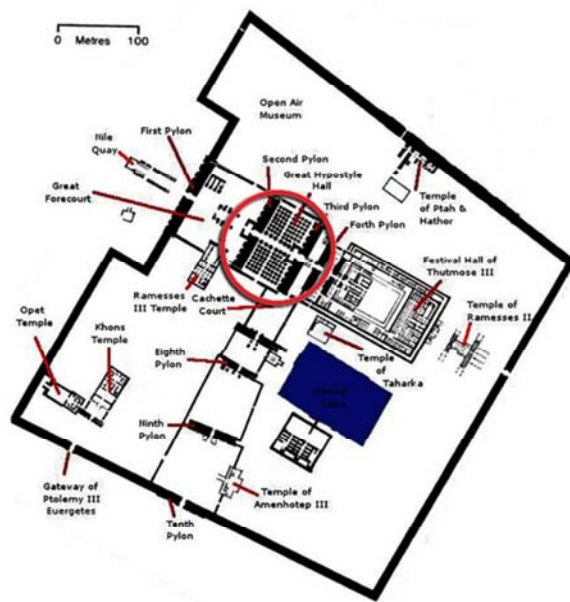


Figure 6. Is showing the large columns of the Great Hypostyle Hall at the Precinct of Amon-Re in temple Karnak. Left: Is the map of the temple, Right: Is a photograph of the Hall. Reference: [10].

6.6.2. Ancient Egyptian Columns in Domestic Buildings

Columns are commonly used by architects in domestic buildings for carrying ceilings and roofs above, and also for the purpose of decorating facades and walls of its exterior and interior spaces. Inside interior spaces; Architects usually tend to group columns either attached to, or placed as near as possible to interior walls, this is to avoid disturbing interior spaces with too many columns in case of large span halls.

In the compiled figure below; Both a schematic plan of a large mansion house found at the "Illahun" area of "Tell El-Amarna", in southern Egypt that was built in the "Middle kingdom", and a schematic plan of a typical hall design showing columns grouped near the sides of its two facing interior walls in order to facilitate a clear internal space.

In the plan of the mansion, it is noticed that ancient Egyptians: (i) Used columns excessively. Also, (ii) In zones annotated [A, B, and C] of the mansion plan; They significantly placed a group of columns along the center lines of these interior spaces, although it may seem from the drawing scale that such rooms had shorter spans than the main hall and other larger interior spaces of the mansion.

This may imply that the use of columns in rooms with such smaller spans was for decorating purposes rather than for structural purposes. However, in terms of structural behavior; stacking columns along center lines is more suitable for interior spaces with larger spans than those of smaller ones in the mansion.

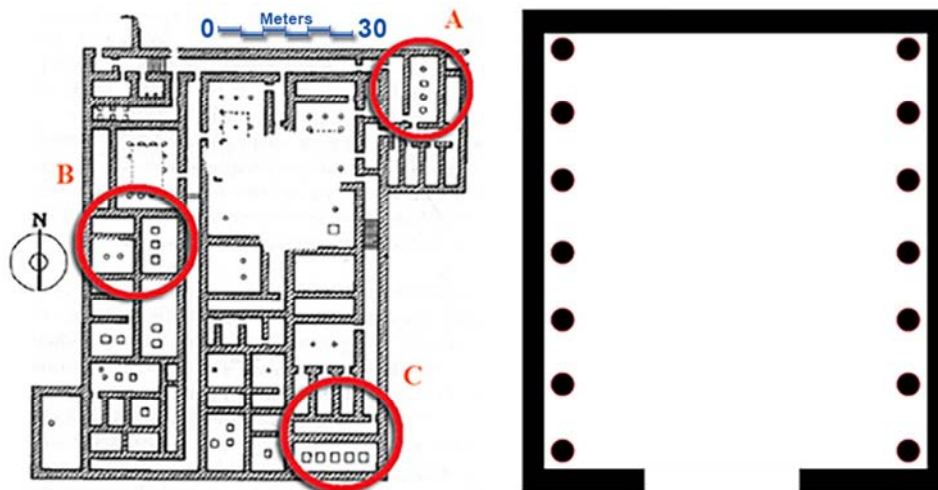


Figure 7. Left: Is showing a schematic plan of a large ancient Egyptian house found in the Illahun area of Tell El-Amarna, in southern Egypt. Right: Shows a typical Hall design with columns on its side walls used either for decorating walls, or for carrying the hall ceiling. Left and right images were compiled and annotated by the research. Reference: [11].

6.6.3. Ancient Egyptian Columns in Military Buildings

Ancient Egyptians used to build military fortresses to protect their cities from the dangers of invasion; the following figure shows a perspective drawing of the "Shalfak" fortress in the "Uronarti" island near "Semna" that was built for the purpose of protecting the "Nubian" borders.

In the figure; it is noticed that the façade of the fortress is

decorated with a series of freestanding columns. Decorating walls of a military fortress with columns is a great exception to typical design rules for such types of buildings, with their walls supposed to be bold, having narrow windows, rigid high surveillance towers, strong gates, and in some cases surrounded by artificial water barriers.

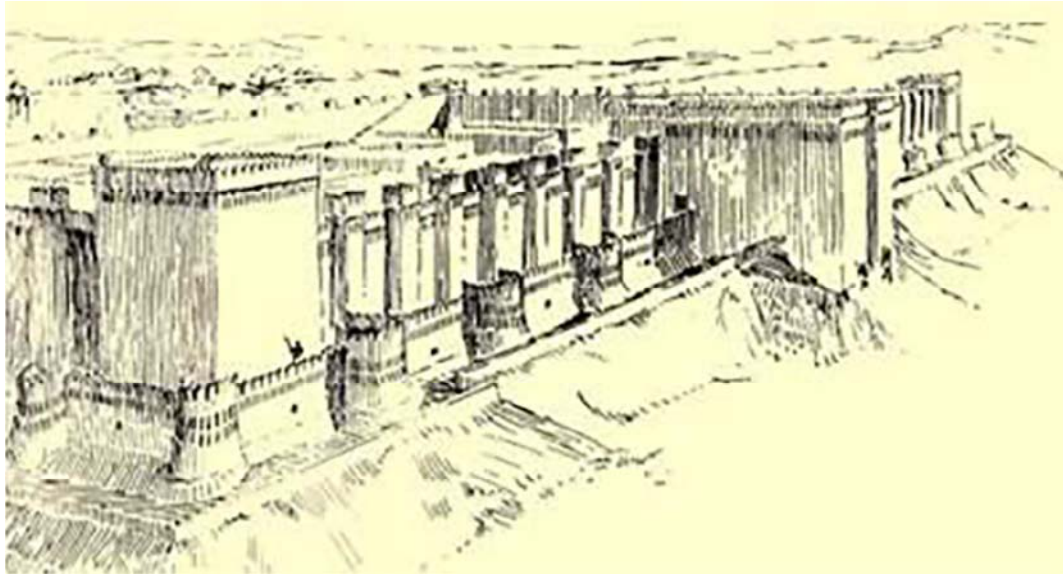


Figure 8. Shows a perspective drawing of the Shalfak fortress in the Uronarti island near Semna. Reference: [12].

6.6.4. Ancient Egyptian Columns in Administrative Buildings

Ancient Egyptians used to build storage spaces for grains and harvests, sometimes in the form of silos; the following figure shows the use of columns in a courtyard of a space dedicated for a group of storage silos, as parts of an administrative building found in the "Illahun" area at "Tell El-Amarna" in southern Egypt. ⁶

the visual sequence of the avenue. In addition, he placed a series of columns that run in parallel, and behind the sphinxes to enhance the visual effect of holiness and greatness, as this passage is made for the pharaoh and his wife.

In the following figure; it is noticed that these columns were not constructed for structural purposes; a simple entablature is extending above the columns acting only as a tie beam for such columns, with no signs to carry a roof or a ceiling above

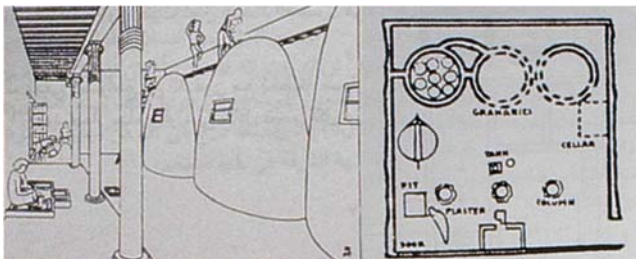


Figure 9. Is showing the use of columns in a courtyard of a space dedicated for a group of storage silos, found in the Lahoun area. Reference: [13].

6.6.5. Ancient Egyptian Columns in Avenues

The following figure is that of the "Criosphinxes" avenue inside the first "Pylon" of the "Karnak" temple. The architect could have been depended on the sphinxes only for creating



Figure 10. Is showing the columns of at the Avenue of Ram-Headed Sphinxes inside the first Pylon of The Karnak temple. Reference: [15].

6.6.6. Ancient Egyptian Columns in Court Yards and Plazas

One of the most distinguished courtyards and open plazas built by ancient Egyptians is the "Ramesses II" courtyard of "Luxor" temple. The court yard contains more than seventy

⁶ An administrative building was found containing seven rounded silos made of mud-brick around a large courtyard. It is believed that the construction dates back to the 17th Dynasty. Excavations were discovered by a team of archeologists from the University of Chicago's Oriental Institute, USA. [14]

"Papyrus" columns, and a number of large standing statues of "Ramses II". The following figure is showing excessive implementation of the column as an architectural standalone

element. A group of columns defined the space of the plaza, while another group of free standing columns as colonnades formed an open corridor to access the plaza.



Figure 11. Is showing the excessive use of columns as standalone architecture at the Ramesses II courtyard of Luxor temple, and its access open corridor. Reference: [16].

6.6.7. Ancient Egyptian Columns in Gates

Another example of the use of the ancient Egyptian column as an independent architectural element is the Standalone Pillars of the "Osiris Gate" leading to the inner courtyard of the "Valley of the Kings", also known as the "Valley of the Gates of the Kings", at the funerary temple of "Ramses II – Ramesseum" in Luxor, Egypt. The pillars have square cross sections with statues of the kings carved as part of the pillar body. Rectangular stones were stacked over the pillars to complete the head or capping of the gate.

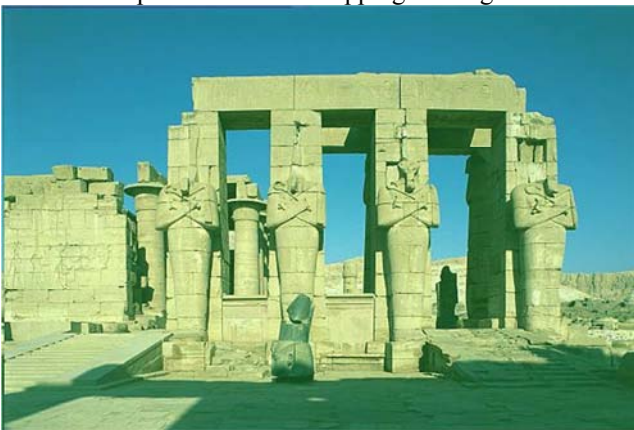


Figure 12. Is showing the Standalone Pillars of the Osiris Gate to the inner courtyard of the Valley of the Gates of the Kings at the funerary temple of Ramses II – Ramesseum in Luxor, Egypt. Reference: [17].

6.6.8. Ancient Egyptian Columns in Arcades

An "Arcade" is a passage area with a roof carried by a series of consecutive columns, either along one, or both its sides. Ancient Egyptians used columns for defining arcaded areas. The following figure shows an arcade in the temple

"Philae"⁷

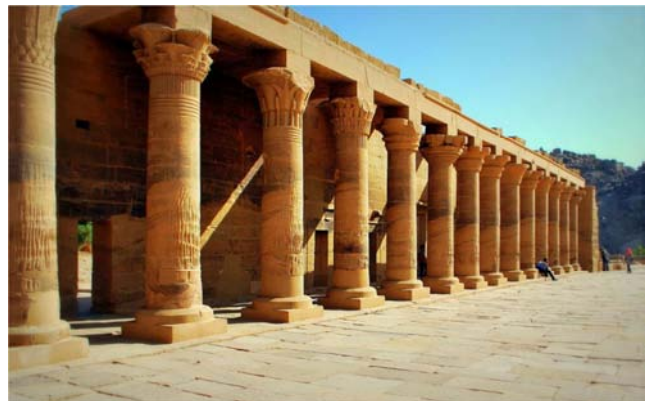


Figure 13. Is showing an arcade in the temple Philae. Reference: [18].

6.7. The Ancient Egyptian Column as a Structural Element

The ancient Egyptians excessive use of the column as a freestanding, and independent architectural element -Just like all ancient civilizations - does not mean that they did not use it for structural purposes, although they built arches, and vaults to carry loads and ceilings, they even extended the use of columns into their civil works; Like for example supporting the retaining wall of the mountain at "Deir el-Bahari" with a group of free standing columns.⁸

⁷ The temple "Philae" was originally situated near the "Cataract" of the Nile in upper Egypt, but due to the flood; The temple was dismantled and reallocated at the "Agilkia" island under the UNESCO-NUBIA campaign project

⁸ A complex of mortuary temples and tombs known as "Deir el-Bahari" or "Monastery of the Sea" located on the Nile west bank and opposite to the city of "Luxor" in Egypt.



Figure 14. Is showing a group of free standing columns supporting the retaining Wall of the mountain at Deir el-Bahari." Reference: [19].

7. Results

Although architects study the historical part of monumental buildings, they still give greater attention to architectural vocabulary, elements, and aesthetic values of old buildings due to the nature of their practice, this approach may be suitable for most ancient civilization buildings. But due to the complexity and diversity of the Pharaonic architecture, architects should give a deeper understanding of the philosophy that is behind, and reflected by every architectural element they used in their buildings, especially the Pharaonic column, since they used it as a chief architectural element beyond, and before its common use as a structural element

8. Conclusion

The way the "Pharaonic" column was built, decorated, colored, and styled is reflecting how ancient Egyptians gave great attention to the column, they have used it as a chief architectural element to represent the power of their kingdoms, they used it as a standalone work of architecture in various types of their buildings. However, from the structural point of view, and just like any other ancient civilization; they also used it to carry loads of beams and ceilings above. They even extended the use of columns into their civil works like using them to support retaining walls

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