

Original Research Article

A Comparative Interpretation of the Influence of the Egyptian Revival Movement on American Architecture in the 20th Century

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Abstract

Problem statement: Many buildings in the West have a reflection of Egypt's past architecture. This research studies the origin of "The Egyptian Revival Movement" and the formation of "The Egyptian Architecture Revival" in America, in which, the artist uses the shapes, motifs, and images of ancient Egyptian works of art, which is attributed to the awareness of Western artists about the historical works of ancient Egypt after the conquest by Napoleon in 1798.

Research objective: This study attempts to discover the roots and influence of ancient Egyptian art and architecture on American architecture in the 20th century.

Research method: This qualitative research aims to find the roots and the way ancient Egyptian art and architecture influenced American architectural works in the 20th century using an interpretive-historical method.

Conclusion: Results show that after the conquest of Egypt by Napoleon, many artists of the following decades were inclined to the art and architecture of ancient Egypt, which led to the formation of the Revival movement of Egyptian architecture. In this way, many architectural buildings were designed and constructed with the inspiration of the art and architecture of ancient Egypt in form and elements such as sanctuary, pylon, peristyle, pyramid, and also Egyptian motifs like papyrus, gorge-cornice with vulture-winged solar globe.

Keywords: *Revival of Egyptian architecture, Immortality, Egyptian revival movement, Ancient Egypt, 20th-century architecture, Napoleon Bonaparte.*

Introduction

The "Egyptian Revival Movement" can be considered a style or movement that has permeated most aspects of art, especially architectural art, in countries such as France and America. According to this movement, various works of art were formed in Europe and America that were adaptations of ancient Egyptian art motifs. Historians have also chosen the title "Egyptian Revival Architecture" for the architectural dimension

of it, which is under the Egyptian revival movement. Ancient Egyptian civilization played a significant role in the development of Western architecture, art, design, and religion. The continuity of Egyptian motifs begins in the design of Greek-Roman antiquity, the Middle Ages, the Baroque, and the Neoclassical. With the progress of Egyptology in the 19th century and the discovery of Tutankhamun's tomb in the 20th century, Egyptology continues in artworks with different aspects and diverse trends in the Art Deco style and afterward. Art Deco was

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a decorative style in Europe and America (1920–1930), roughly between the two world wars, whose title is associated with the first large exhibition of decorative arts in Paris¹. The elements of this style can be taken from the colors and motifs of ancient Egypt, China, the Napoleonic era, the arts of Africa, and Mexico, which appeared in objects such as furniture, pottery, and architecture (Clarke, 2010, 21; Lucie-Smith, 2015, 12). Some consider this style a reaction against the Art Nouveau style, and some consider it a branch of it (Daniel, Shafei & Sorooshiani, 2016, 53). After the influence of Egyptian elements in the Art Deco style, postmodern and rationalist architecture have also taken aspects of Egyptian design (Curl, 2013, 434). Art Deco in American architecture also takes advantage of ancient Egyptian design, which is related to the third period of the revival of Egyptian architecture (ibid., 16). The use of right-angled lines, pure and sometimes bright and sharp colors, forms with simple and flat geometry, and decorative elements such as the use of letters can be considered to be the main characteristics of the Art Deco style, which is based on a kind of geometric simplification (Moshtaq, 2019, 14; Daniel et al., 2016, 55). The two main components of ancient Egyptian art and architecture are the symbolism and durability of its buildings, which were a stimulus for the reuse of this art at different times. The entry of ancient Egyptian artistic elements into American art and architecture began at the end of the 18th century and was called the “Revival of Egyptian Architecture”. The architectural style that incorporates elements from ancient Egyptian buildings and carvings in its form and decorations is often credited with the increased awareness of historians and artists about the art and architecture of ancient Egypt (Goldschmidt Jr, 2018, 16). This awareness was significantly influenced by Napoleon Bonaparte’s conquest of Egypt in 1798, during which he engaged in multiple battles in Egypt and Syria (Thomson, 2008, 41). Many French scientists and artists accompanied Napoleon to Egypt, leading to a profound introduction of ancient Egyptian history and art to Europeans. Napoleon’s companions in this expedition were among the first to appreciate the significance of this ancient land (Tarle, 1974, 104). Following the capture of several key cities in Egypt, Napoleon’s army reached Alexandria on

July 21, a crucial city in Egypt where a fierce battle unfolded between the French forces, Egyptians, and soldiers of the Ottoman Empire. The French emerged victorious from this battle. Napoleon had convinced the French government that occupying Egypt would disrupt British trade with Asia and enhance French power. Based on these historical events, this research aims to address the following two questions:

1- How was the revival movement of Egypt in Western architecture formed?

2- What was the effect of this movement on the architectural works of the 20th century in America in terms of form and style?

While introducing and analyzing aspects of ancient Egyptian art and architecture, the revival movement of Egypt and its architectural aspects are discussed. Then a comparison of examples of architectural works in America with ancient Egyptian architecture is done to address the purpose of this research which is to find the roots and influence of ancient Egyptian art and architecture on the architecture of recent centuries in America.

Research Background

The three main components of this research are based on Napoleon and his conquest of Egypt, the art and architecture of ancient Egypt, and the revival movement of Egyptian architecture in the West. In the domain of the conquest of Egypt by Napoleon, Tarle (1974) discussed the biography of Napoleon and the description of his conquests, especially the conquest of Egypt. Also, David Thomsen (2007) has reviewed the revolutions and conflicts in France based on the rise of Napoleon Bonaparte. Regarding ancient Egyptian architecture, Watkin (2019) documented Egyptian temples and examined the symbolic aspects of ancient Egyptian art and architecture. Meanwhile, Hartt (2003) described the periods of the ancient Egyptian kingdom and the art of each period, explaining the architecture of ancient Egypt based on temples.

Moshtaq (2019) and Pakbaz (2020) defined the history of Art Deco. The Egyptian revival movement and the revival of Egyptian architecture have also been reviewed in English sources by Curl (2013) and Giguere (2014). Curl has described images of Egyptian

art by presenting documents from the discoveries of ancient Egyptian artifacts and explaining the designs adapted from them in the West. Giguere also reviewed the history of American architecture and engineering and examined the styles adopted in the city of Los Angeles. In the field of Art Deco, Robins has described the emergence of this style in America along with its social history and analyzed the affected buildings. Despite the existing documents and writings, the issue of the influence of the Egyptian revival movement on American architecture has not been addressed.

• **Intertextuality**

Intertextuality, as a critical approach, measures the relationships and influences between texts, which in architecture is more focused on how a work is formed concerning other works, and finally, it explains how to polysemy the text. Meanwhile, the architectural work can no longer be read as a mere object but as a text. According to this attitude, this modern idea, which considers everything to be original and born from a blank slate, is criticized and considers the birth of any text or idea in a multidimensional space in terms of meaning, the result of authoring from various matters related to the past (Ghaseminia, Soltanzadeh & Raeisi, 2022, 26). The theoretical foundations of this research are also based on the intertextuality approach in a comparative sense, based on which some architectural works are realized by adapting other works.

• **Egyptian revival style**

The Egyptian revival movement is one of the styles that has penetrated all aspects, from decorative arts to architecture. European and American people's fascination with Egyptian culture dates back more than 150 years when stylistic elements began to appear in the art and architecture of Europe and America at the end of the 18th century. Napoleon Bonaparte, who brought a delegation of French cultural elites with him after the conquest of Egypt, sparked a great deal of research into the attractions of Egyptian art, leading to the publication of the first volume of the book "Description de l'Égypte" in 1809. This work was published in 1826 as a collection showcasing the contents and images of Egyptian art and architecture, including pyramids and other works of art.

Additionally, the translation of the Rosetta stone twenty years later and the deciphering of the hieroglyphic script in 1822 further fueled interest in Egyptian art and culture in Europe and America. Following this discovery, there was a surge of public interest in all elements of Egyptian art (Fritze, 2021, 156), and gradually, the use of this style in the design of gardens, cemeteries, and architectural buildings in the West became popular, reaching its peak in the 1830s before slowly fading away in the 1850s. Subsequently, there was another revival in the Victorian era in the 1880s following the opening of the Suez Canal. The extraordinary longevity and endless quality of Egyptian art were also very suitable for monuments (Goldschmidt, 2018, 2). Therefore, the civilization of ancient Egypt has always played a central role in the further development of Western art and architecture, and various architectural works adapted from it were born in countries such as France and America that were influenced by Egyptian motifs and culture. The artists in this style tried to somehow recreate the appearance of Egyptian temples in their buildings. This style was mostly used in public buildings, banks, prisons, court offices, and tombs, although at first it was often chosen for buildings that represented eternity and the afterlife, such as tombs. The adaptation of ancient Egyptian art and architecture can be divided into three general periods, each of which emerged in a different form. The first period includes before the formation of the Egyptian revival movement, where some elements of ancient Egyptian art have been discovered in Hellenistic and ancient Roman architecture. After Egypt became part of the Roman Empire, the Egyptian gods found a place for the Romans as well, and this process accelerated over time. For example, obelisks adorned Roman squares and open spaces (Curl, 2013). The second period begins with the conquest of Egypt by Napoleon in 1798, which leads to the formation of the revival style of Egyptian architecture. At the end of the 18th century, many architects, influenced by this movement, were led to design forms with simple geometry that led to the creation of clarity, solidity, and purity in their compositions. This influence can be seen in cases such as the use of forms such as right-angled and pyramidal towers that

were influenced by the entrance of Egyptian temples, which became the evolving language of neoclassicism architecture. With the discovery of Tutankhamun's tomb in 1922, the third period of adaptation of the art and architecture of ancient Egypt was formed, which faced the reacceptance of the art and architecture of Egypt by European and American artists on a larger scale than the previous periods, which also influenced the Art Deco style. This point can be seen in the use of geometric decorations, bright colors, and abstract motifs (Curl, 2013; Shulman Shulman, Boehner & Gleye, 1981). Art Deco, which emerged as a result of material shortages following World War I, persisted in certain regions, such as India, until the 1960s. Its zenith in America was during the World's Fair (1939) in New York, after which its influence waned (Moshtaq, 2019, 14; Pakbaz, 2020, 47). Today, Art Deco has become a generic designation for a range of modernist architectural styles that emerged in New York. In the aftermath of World War I, New York ascended as a global metropolis, experiencing a burgeoning population. Its reputation spanned from being a city of extreme affluence and poverty to creating a substantial middle-class populace, marking it as a technological marvel of the new era. Art Deco was initially introduced in New York by a select group of architects as a style for designing skyscrapers. Architect William Van Allen, to illustrate, designed, and constructed the Chrysler Building, the first skyscraper to surmount the 1,000-foot mark set by the Eiffel Tower. The decorative utilization of metal, brick, pottery, and notably, a variety of colors became a defining decorative emblem for Art Deco edifices. The economy has also played a role in the appeal of this style. The popularity of a simple and affordable plan in times of recession makes sense. Because it can give a new effect by changing the color or geometric pattern in the brickwork of a cheap building (Robins, 2017, 1-7). In America in the 1920s, Art Deco seems to be a dominant style that includes many buildings such as the Chrysler (1930) and Empire State (1931) Buildings (Daniel et al., 2016, 60). Table 1 shows the periods of the Egyptian revival movement along with the characteristics of each.

• Ancient Egyptian architecture

The Egyptians, who often faced the attack of foreign tribes in the distant past, were able to create their own unique and special forms in the fields of architecture, statuary, and painting (Hartt, 2003, 7). The art and architecture of ancient Egypt are manifestations of the deep relationship between man and nature and the belief in immortality. For example, innumerable scenes from the paintings of the ancient Egyptians dealt with the events of the lives of the dead, whose lives were hoped to continue in the other world as well (ibid., 81). For this reason, the architecture of the ancient Egyptians was also considered symbolic rather than (Watkin, 2019, 18). Herodotus, who left a report on Egypt in 460 B.C., believes that "Egyptians considered their dwelling house a temporary residence and their tomb a permanent residence until reaching the Day of Resurrection" (ibid., 19). The desire to present the order of eternity brings the necessity of a symbolic expression of life after death with it (Norberg-Shulz, 2010, 7). For this reason, tombs and temples are the most important buildings of the ancient Egyptians as the house of eternity. In the meantime, the belief of the ancient Egyptians in many gods as well as the pharaohs, who were often recognized as the manifestation of the gods in the position of the kingdom of the world, should not be ignored. The main gods were the representatives of natural elements that were incarnated with human-like characteristics and sometimes a combination of human characteristics and other living beings. This reveals a kind of connection between man and nature in the attitude of the ancient Egyptians (ibid., 41). In the distant past, there was such an image in the ancient Egyptians that the pharaoh or the king of Egypt was involved in the order of the natural world such as the sunrise and sunset, and they considered him the offspring of the gods of nature (Hartt, 2003, 71). In other words, the pharaoh was the custodian of Egyptian rites and rituals, and there was a mutual relationship between him and the gods, which could inspire artists and architects (Watkin, 2019, 18). Ancient Egyptian architecture often had simple volumetric shapes and stable geometric order. An architecture with fixed intentions for three thousand years, whose emergence can be summarized in the form of a pyramid; Because

Table 1. Periods of the Egyptian Revival Movement. Source: Authors.

Periods and influential factors in the formation and continuation of the Egyptian Revival movement	Important Actions	Impressed buildings	
	The first period (the ancient period until Napoleon's conquest) to 1798	<ul style="list-style-type: none"> - The arrival of Egyptian antiquities to Europe for the first time with the growth of cults related to the Nilotic gods (Curl, 2013, xxvi). - The transfer of obelisks to Rome as a symbol of Roman power the defeat of Egypt and the compilation of new obelisks in Latin (Curl, 2013, 22). - Eclecticism in many fields such as religion, architecture, and decorations (Boatwright, 2018, 127). - Adoption of Ptolemy's governance methods by some Roman emperors (Rouillet, 2015, 68). -The powerful placement of the cults of Isis and Serapis in the Roman pantheon (temple) in the middle of the first century A.D. and their transformation into imperial gods (Curl, 2013, 61). - Emperor Hadrian's interest in Egypt and the construction of Villa Adriana and the Roman Pantheon (Boatwright, 2018, 140). - The emergence of ancient Egyptian artifacts in Renaissance exhibitions (Curl, 2013, 323). - Creating symbolism by repeating the elements of Egyptian hermesis in the Renaissance period in writings and images (Dresser, 1873, 4). - Searching for an architectural expression free from Rococo decorations, and showing vivid geometric shapes (following the ideas of Laugier and Herder). - Appreciation of Doric and Egyptian architectural features through Piranesian² paintings (Curl, 2013, 172). - Searching for simplicity and purity in forms and finding the importance of Egyptian architecture due to the use of absolute geometric shapes. -Turning the English garden into memorial gardens³ and into cenotaphs⁴ and later with real graves. 	<ul style="list-style-type: none"> -Villa Adriana -Rome Pantheon -Cestius-type pyramid -Haga Castle -Elephant and Obelisk in Rome⁵
	The second period (after Napoleon) 1798-1922	<ul style="list-style-type: none"> -The revival of the eclectic style following the Napoleonic campaigns in Egypt (1798-1801) and the combination of the Egyptian style with classical motifs. - Frances Yates's⁶ historiography about the continuation of the Egyptian religion and the revival of the Hermetic tradition. - Identifying the connection between the illumination of the Marian cultus and ancient times by researchers⁷. - More prominent use of Renaissance symbolism after the victory of counter-reformation in Central and Southern Europe. - Stage design in the 18th and early 19th centuries. - Adaptation of architects such as Peter Behrens⁸ and Walter Gropius from the burial temple of Deir-el-Bahari and Hatshepsut queen by using rows of long, square columns, without capitals and devoid of decorations (Curl, 2013, 371). 	<ul style="list-style-type: none"> -Egyptian Hall -Egyptian building of the Medical College of Virginia in Richmond⁹ -Moyamensing prison in Philadelphia
	The third period (after the discovery of Tutankhamun's tomb) after 1922	<ul style="list-style-type: none"> - Exhibition of tomb objects in Paris and the British Museum in 1972. - Coincidence of the popularity of Art Deco and Egyptian elements with the democratization of art and antiquities. - Borrowing art deco from some Egyptian elements (Curl, 2013, 374). - Revival of Egyptian decorative arts style in furniture and other household items. - The movements of Egyptian theaters in the United States as well as in architecture. 	<ul style="list-style-type: none"> -Zaring cinema

the balanced shape of the pyramid, having vertical and horizontal forces, was able to show the embodiment of a stable order with its solidity (Norberg-Shulz, 2010, 3); A thing that the ancient Egyptians always understood about nature and its forces and human life with the revolving perception of time by the Nile River. Attention to permanence and immortality has led to the use of materials such as stone in the construction of many tombs and temples of ancient Egyptians. However, other simple materials such as palm trunks, papyrus bunches, Nile River mud, and clay also played a symbolic role in the buildings of that era (Hart, 2003; Watkin, 2019). The most primitive state of the Egyptian tomb was the mastaba, which dates back to the fourth millennium BC. Also, the first huge building with stone materials from ancient Egypt is the stepped tomb of the Zoser king named Saqqara, which was built by the order of Zoser and by Imhotep, the most important architect of ancient

Egypt (Bani Masoud, 2012, 24). This building, which is the evolved form of the old mastabas with slanted side surfaces, can be considered the oldest example of the implementation of the axial plan with a combination of architecture, painting, and sculpture, the completion of which goes back to around 2680 B.C. (Vatkin, 2018, 19). Often, the plan of Egyptian temples followed a single pattern, which included four parts: a magnificent gate with two towers or pylons, a peristyle, a hypostyle hall, and an altar or sanctuary, all of which were located on the same axis in a rectangular plan with an axial hierarchy. This was a little different in some bigger temples, and sometimes the temples had two courtyards or several halls. Along the way and from the entrance side until reaching the altar, the roofs of the roofed parts became shorter in order. Also, often the floor of the hypostyle hall was one or more steps higher than the floor of the porticoed courtyard, and the floor of the altar was also one step higher than

the hypostyle hall. Therefore, the height of each part was lower than the previous part (Norberg-Shulz, 2010, 8; Upjohn, Wingert & Mahler, 2011, 62). Since the courtyards were open to the sky, they were called the court of the sun. Also, hypostyle halls were a symbol of night and darkness; for this reason, they were used to decorate their ceilings with stars (Manley, 2018, 11). As a result, the architecture of each temple in ancient Egypt was a small part of the overall temple collection that embodied the myth of creation (ibid.). For example, the similarity of the pattern of Egyptian temples can be seen in temples such as Medinet Habu, Edfu, Luxor, etc., as shown in Table 2. Therefore, it can be acknowledged that Egyptian buildings present a combination of four main intentions: enclosed oasis, permanent and megalithic volume, right-angled order, and passage, all of which are presented in a symbolic form in Egyptian architecture (Norberg-Shulz, 2010, 10). There were other elements in the formation of the architecture of ancient Egyptian temples, which were often repeated in temples with a special arrangement; elements such as pediments, columns decorated with plant images, and walls with an upward slope that expressed the dynamic towards the sky, which are introduced in a more detailed way in Tables 3 & 4 in two groups of forms and ornaments.

Research Method

Since the topic of this research refers to the timeline of the 20th century and before that, it is included in the category of historical research with a qualitative approach; because historical research seeks to find available data from past events. Also, to achieve the goal of this research, which is to find the roots of the influence of ancient Egyptian art and architecture on American architecture in the 20th century, the interpretive-comparative research method has been used in data collection. Because the interpretive method clarifies the study of non-obvious meanings in phenomena, events, and works (Heidari, 2016, 191). In this research, following the answer to the first question, firstly, the collection of primary data from written works has been done using the library method. Then, by studying how the art and architecture of ancient Egypt influenced Western works, the secondary data of this research was formed. Thus, the statistical population of this research includes all American architectural works that are included in this movement by imitating or adapting ancient Egyptian architectural works; Also, by using the non-probability sampling method, those buildings that had the characteristics mentioned in diagram 1 were selected for case analysis, and finally, the research findings were explained in Tables 3, 4 & 5 in the manner of comparative analogy.

Table 2. The general pattern of ancient Egyptian temples. Source: Authors.


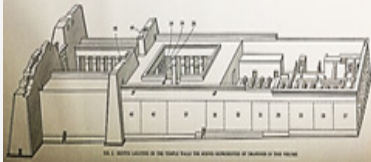
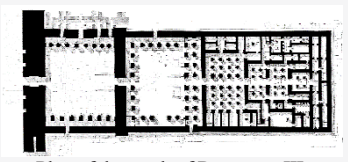


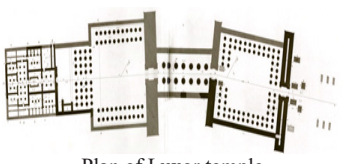



Common pattern of ancient Egyptian temples			
The placement of the four parts of the magnificent gate with two towers or pylons, the peristyle, hypostyle hall, and altar or sanctuary on a horizontal axis where the light of each part is less than the previous part; so, the altar part is the darkest part of the Egyptian temples.			
Temple building	Real pictures	Simulated images	Plan
The tomb of Ramesses III, Medinet Habu in Thebes	 Tomb of Ramesses III.	 Simulation of the tomb of Ramesses III.	 Plan of the tomb of Ramesses III.
Luxor Temple	 Temple of Luxor	 Simulation of Luxor temple.	 Plan of Luxor temple
Temple of Horus, the god of Edfu	 Temple of Horus.	 Simulation of Horus temple	 Plan of Horus temple

Table 3. Ancient Egyptian architectural elements (along with concepts and images); forms. Source: Authors.



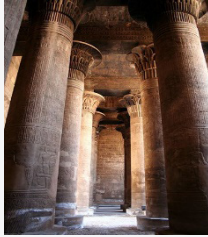




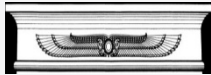


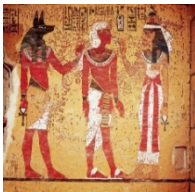


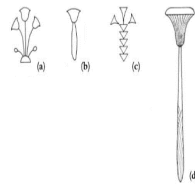

Forms		
Title	Description	Picture
Obelisk	A narrow monument with a square base and often integrated, engraved with hieroglyphs with a small pyramid in its upper part. In ancient Egypt, obelisks were generally built in pairs as temple dromos (Curl, 2013, 451).	
Symbolic aspects	<ul style="list-style-type: none"> - A manifestation of Amun in ancient Egypt (ibid., 424). - The position of the gods (ibid., 451); A symbol of a manifestation of the sun; It is in the form of a stone in which Ra, the goddess of the sun, is located inside this stone (ibid., 457); - The pyramid at the top of the building represents the removal of negative forces, wind, and storms (ibid., 22). 	Obelisk in ancient Egyptian monuments.
Colonnade	A set of columns in a straight line carrying the capitals (ibid, 430). The emergence of units with repetitive components such as porticoes and continuous frames in the Middle Kingdom period (Norberg-Shulz, 2010, 38), a group of columns similar to a bunch of lotus or papyrus stems tied together with a belt under the capital (Upjohn et al., 2011, 65).	
Symbolic aspects	The desire to present an eternal order with a symbolic expression of life after death (Norberg-Shulz, 2010, 7).	Row of columns of Philae Temple
Pillars and capitals	Thick stone pillars with capitals in the form of papyrus or open and closed lotus flowers carved on them (Bani Masoud, 2012, 32) and (Upjohn et al., 2011, 66). Often, the Egyptian column is placed between the lower base and the capital, which is wider at the top and bottom of the column (Curl, 2013, 430).	
Symbolic aspects	<ul style="list-style-type: none"> -Pillars in temples as the sun god in heaven or support of heaven (ibid.). -The shape of the columns often originated from the shape of plants while having a structural function and were symbols of plants that grew from fertile soil to give survival and security to the inhabitants of that land (Norberg-Shulz, 2010, 12). -The immortality of gods should be extended to their houses and temples as well (Upjohn et al., 2011, 69). 	Columns of Khnum Temple.
Pylon	A pair of towers with upward-sloping walls stood at the entrance to the ancient temples. (Trafton & Pease, 2004, 156). Decorations with hieroglyphs and various motifs indicate the defeat of enemies by the gods (Hartwig, 2015, 314).	
Symbolic aspects	<ul style="list-style-type: none"> -The protector of the gods who were behind them in the holy place (ibid., 313) -The strength of the pylon expresses the desire of the Egyptians for immortality (Upjohn et al., 2011, 63). -The movement of the gate walls towards the sky was meant to point to the supreme world (Watkin, 2019, 19). -The sunrise from between the two halves of the main gate and the entrance gate, like the gate of the sky, from where the sun god rose (Norberg-Shulz, 2010, 8). 	Pylons of Huro's Temple.
Pyramid	<ul style="list-style-type: none"> -Solid, standing on a square base with four sloping sides reaching a vertex (Curl, 2013, 457). -Using the pyramid as the strongest geometric form (Upjohn et al., 2011, 59) (Fig. 14). 	
Symbolic aspects	-Existential security with lasting, fundamental, and pure volumes and desire for simple forms (Norberg-Shulz, 2010, 23).	The Great Pyramid of Khufu.
Hypostyle hall	-The central part of this hall has a higher height than its side parts; With a row of upper windows for lighting and ventilation, which later became part of the structure of the Roman architectural space (Bani Masoud, 2012, 31-2). "This row of upper windows was a forerunner of the lighting measures for the churches of the Middle Ages" (Watkin, 2019, 23).	
Symbolic aspects	Columns accompanied by a window to visualize the appearance of Pharaoh (Norberg-Shulz, 2010, 33).	
		Skylights above the pillars.

Table 4. Ancient Egyptian architectural elements (along with concepts and images); ornaments. Source: Authors.

Ornaments		
Title	Description	Picture
Winged solar cornice	<p>-This cornice exists in ancient Egyptian mythology by order of Ra to remember the heroic action of Horus in the form of a winged sun in all houses and cities where people worship (Ebers & Birch, 2010, 325).</p> <p>-Horus is a god of the sun who is depicted with a falcon head in the paintings. With the name Hor, in the eyes of the Egyptians, he was like a falcon that flew above their heads in the sky (Vieu, 2008, 47).</p>	 <p>Design of the winged solar cornice</p>  <p>Design of the winged solar.</p>
Symbolic aspects	<p>-The winged solar as a symbol of Horus from Edfu (Curl, 2013; Graves-Brown, 2018).</p> <p>-The form of the cornice of the winged solar, the symbol of the Horus god, the son of Osiris and his avenger (Hart, 2021, 32; Vieu, 2008, 47).</p>	 <p>Winged solar cornice.</p>
Colors	<p>A presentation of an important thing for the ancient Egyptians through symbolic relationships.</p>	 <p>Wall paintings of Tutankhamun temple.</p>
Symbolic aspects	<ul style="list-style-type: none"> - Blue: symbol of heaven, eternity, infinity Black: symbol of death, underworld, and rebirth (Curl, 2013, 424). - Green: symbol of goodness, life, resurrection, place of happiness (ibid., 430). - Red: symbol of Lower Egypt, danger, anger, victory, fire, blood, satire, violence (ibid.). Seth with red eyes and hair (ibid.). - Red and white: the symbol of opposites (such as the crown princes of Upper and Lower Egypt), but also the expression of the whole (ibid.). The red sea horse is a symbol of man and the enemy, and the white sea horse is a symbol of women and the holy (ibid.). - Fawn: symbol of men (ibid.). -Yellow: symbol of women (ibid.). - White: symbol of earthly power, purity, sanctity, high Egypt, happiness (ibid.). 	 <p>Color in Egyptian paintings.</p>
Lotus	<p>At night, it collects its leaves and goes under the water to rise and bloom at sunrise. The water lily has a pleasant fragrance, which is the reason for its consecration (Upjohn et al., 2011, 82). The lotus flower and bud were both used in the Egyptian capitals and the forehead of the god Isaac (Curl, 2013, 446).</p>	 <p>Letters, bud, flower, opened flower, and lotus bud-flower respectively.</p>
Symbolic aspects	<p>-Expressing water and fire, divine light, and primitive darkness (ibid.).</p> <p>-Symbol of rebirth (ibid.).</p>	
Papyrus	<p>A tall and umbrella-shaped plant that was very popular in the marshy areas of ancient Egypt and sometimes grew to a height of more than six meters in the form of dense groves (Upjohn et al., 2011, 82). Papyrus capitals supporting the roof (Curl, 2013, 453).</p>	 <p>Five-branched form indicative of Lower Egypt, papyrus-sceptre, abstraction of flowering papyrus, Egyptian painted papyrus decoration (bell-capital like).</p>
Symbolic aspects	<ul style="list-style-type: none"> -The symbol of the source of knowledge (Hart, 2021, 81) and expressing greenness, happiness, victory, and prosperity (Curl, 2013, 453). -The tying of lotus and papyrus reed around a central element that represents the heart and lungs is a symbol of the pharaoh as a heart that connects Egypt with the Nile River. The Nile is a path that gives life to Egypt in the form of fresh water and fertile land (Lightbody, 2020, 68-69). -When the land of ancient Egypt was flooded, a large part of it was covered by the papyrus plant, and therefore it was known as a symbol of strength and fertility (Upjohn et al., 2011, 83). 	
Palm trees	<p>Leafy shape capitals; Palm leaves with foliage cluster motifs and alternating with water lotus (Curl, 2013, 453).</p>	 <p>Examples of palm capitals.</p>
Symbolic aspects	<ul style="list-style-type: none"> -Symbol of Upper Egypt and fertility (ibid.). -The branches represent the great crown of God (ibid.). -Palm leaf is also known as a year (ibid.). -Covering the head in the shape of a palm leaf, a symbol of permanence and eternity (ibid.). 	

Findings and Discussion

• Components and motifs of Egyptian architecture revival

The architecture of ancient Egypt was monumental, columned, and magnificent, and its most famous remains are temples and tombs. This architecture with elements such as Battered walls, pylon towers, pyramids, obelisks, large columns with water lotus, palm, papyrus, and other forms of capitals has emerged in the revival style of Egyptian architecture (Grimes & Yoder, 2015; Curl, 2013). Therefore, in this style of architecture, symbolic aspects have always prevailed over functional aspects. Fig. 1 briefly introduces the architectural components of this movement.

• The influence of the Egyptian revival movement on American architecture

The revival movement of Egyptian architecture in America started at the beginning of the 19th century and continued until the beginning of the 21st century, with three different periods of emergence following different time intervals. American people became familiar with ancient Egyptian culture through museum displays, lectures, popular literature, and even the public ceremony of “opening the mummy of the pharaohs” (Giguere, 2014, 17–18). Also at this time, America was criticized by writers such as Charles Dickens and Francis Milton Trollope due to the

lack of a clear cultural arrangement and a meaningful past as a relatively young country. To counter these criticisms, the country’s elite sought to create a kind of national heritage based on the great civilizations of ancient times (ibid. 2). In this regard, architects tried to achieve an independent identity for themselves while developing the American aesthetic and without benefiting from European culture. They had the unique opportunity to shape their civilizational development by adopting selective elements from ancient civilizations such as Egypt (Phillips, 2007, 21–22). According to their belief, these elements, due to their symbolic role, acted as suitable focal points that could develop a national identity (Giguere, 2014, 98). For example, one of the landmark buildings that was built in America under the influence of the Egyptian revival movement in 1845 was the building of the Medical College in Richmond, which is known as a landmark building in this style in terms of its building form and facade details. Egypt had a long reputation based on Herodotus and Manetho and was known as the land of wisdom and knowledge, with significant medical knowledge. This can explain the reason for choosing the Egyptian style for the interior and exterior architecture of the medical college in Richmond (Carrott, 2020, 111-112). Fig. 2 A to D shows the general form and some details of

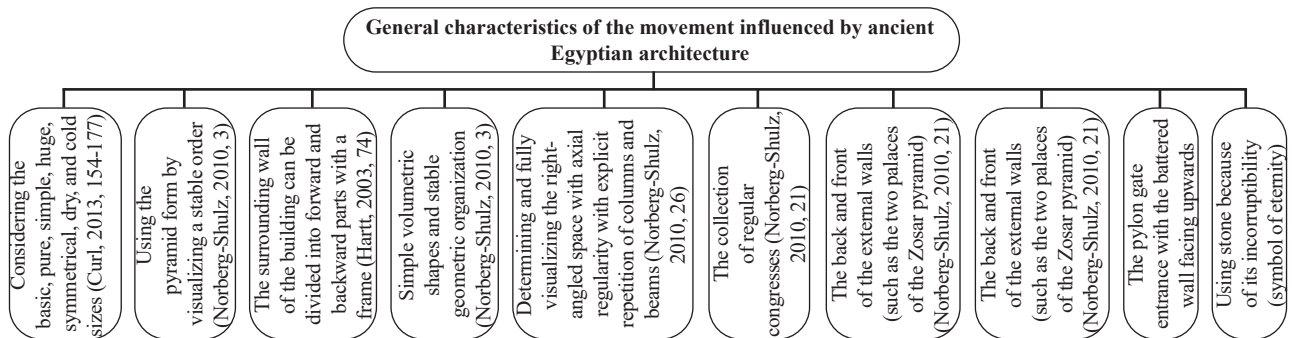


Fig. 1. The main components of Egyptian Revival style architecture. Source: Authors.



Fig. 2. General form and some details of the medical college in Richmond. A: The shape of the columns and the capitals. B: The prominent shape above the building (winged solar cornice). C: View of pylon towers with an upward slope. Source: www.architectureinrichmond.com. D: Solid form and pure geometric structure. Source: www.roadarch.com.

this building, which is influenced by ancient Egyptian architecture. This movement emerged in America again from the end of the 19th century to the first half of the 20th century, when European colonialism and imperialism were considered the origins of some of these artistic motifs and, therefore, native architectural elements were adapted from the regions under European rule (Stolzman, Hausman, Stolzman & Hoffman, 2014, 109). Another stage of the emergence of this movement in America is related to the early 20th century, when, along with Greek and Roman influences, Egyptian culture and forms, especially obelisks, were included in historical buildings. For example, in the 1920s, there was a wave of the revival of Egyptian architecture (Gebhard, 1993, 60), which was more flamboyant than the previous wave (Grimes & Yoder, 2015, 3) and often about larger urban buildings such as theaters and skyscrapers on a grand scale (Giguere, 2014, 210). This trend gained momentum, especially in metropolises like New York, Chicago, and Los Angeles (Phillips, 2007, 16). Table 5 compares some examples of buildings in America that are influenced by the Egyptian revival movement with ancient Egyptian temples.

Conclusion

In ancient Egyptian architecture, symbolic aspects have always prevailed over functional aspects, and this style of architecture throughout history has attracted the attention of Western countries as well. With the conquest of Egypt by Napoleon and the deciphering of ancient Egyptian art, the familiarity of European and American artists with the artistic resources of the land of Egypt increased. For that reason, European and American artists were more attracted to this art and its adaptation and revival in the works of art and architecture of the last three centuries. In American architecture, many buildings are somehow influenced by the symbolic aspects of ancient Egyptian architecture, and this often comes

back to the way of using the volume, the overall form of the building, and the use of ancient Egyptian art motifs. The use of Egyptian elements also found its way into styles such as Art Deco, Postmodern, and Rationalism. Some of the most important features are attention to fundamental and pure volumes in a symmetrical form, use of pyramid shapes, forms with stable geometric organization, determination and complete visualization of right-angled space with axial arrangement, a set of regular congresses, an entrance with pylon towers gate with a battered wall facing above and the use of stone is due to incorruptibility. In the building of the Scottish Rite Temple, the facade of the building is taken from the entrance gates of the two towers of the ancient Egyptian temples, which have battered walls with a few limited openings, and the statue of the Sphinx is used at the entrance of the building. In the apartments of Karnak, Ahmed, and Osiris, huge and battered walls are used in full purity of volume and simple geometry, which can be seen next to the symbolic columns with Egyptian motifs, standing and free, which are taken from the architecture of the Khonsu temple. In the Mobridge Masonic Temple, the building entrance is a clear adaptation of the entrance gate of the Khonsu Temple, the stone material, the plasterwork above the entrance wall under the ceiling, and the narrow columns of lotus stripes in this building are other references to ancient Egyptian architecture. In the apartments of Pharaoh's court, the simple and pure dimensions, large light-filled spaces, the shape of the capitals, and the color of the facade are adapted from Luxor Temple. At the Luxor Hotel in Las Vegas, the building's pyramidal shape resembles the Pyramids of Giza, juxtaposed with a sphinx statue and solid geometric organization. All the mentioned cases, with a comparative analogy, are considered to be the influence of the art and civilization of the East on the art of the West.

Endnotes

- 1 . Exposition internationale des arts décoratifs et industriels modernes.
2. Giovanni Battista Piranesi.
- 3 . I.E. William Shenstone's gardens at The Leashowes and Stowe.
- 4 . Symbolic gardens with empty tombs.
- 5 . By Gian Lorenzo Bernini.

- 6 . 1899–1981.
- 7 . Reginald Eldred Witt (1903–80), Theodor Hopfner (1886–1946), M. ünster, N. Martin Persson Nilsson (1874–1967).
- 8 . 1869–1940.
- 9 . Virginia, United States, 1845.

Table 5. Examples of American architectural works were influenced by the Egyptian revival movement in the 20th century. Source: Authors.

American architectural works in the 20th century				Similar works of ancient Egyptians		
Title of work	Architect	Construction time and location	Properties	Picture	Title of work	Picture
Scottish Rite Temple	George Bigelow Rogers	Alabama, 1922	<ol style="list-style-type: none"> 1- The view of the building taken from the two-tower entrance gates of ancient Egyptian temples. 2- A few limited openings. 3- The sloping wall at the entrance of the building to show the strength of the building. 4- The Sphinx statue at the entrance of the building 5- Chimneys influenced by the form of ancient Egyptian obelisks 	 Scottish rite temple		 Khonsu Temple.
Karnak apartments and Ahmed apartments	John Manley Close	Los Angeles, 1925- 1926	<ol style="list-style-type: none"> 1- Flat roofs 2- Massive battered walls 3- The form of small windows 4- Capital ornaments 5- Symbolic columns with Egyptian motifs, standing and free 6- The bright and symbolic color of the facade. 7- Around external walls 8- Purity of volume and general geometry 9- Square-shaped window 	 Karnak apartments	Khonsu Temple	 The square-shaped opening of the Khonsu temple.
				 Ahmed apartments		
Apartments of Osiris	John Manley Close	Westlake, 1928	<ol style="list-style-type: none"> 1- The facade of the building is taken from the pylon towers form 2- Row of Egyptian columns (colonnade) 3- Axial arrangement with explicit repetition of pillars 4- Around external walls, small windows 5- symmetrical view 6- facade color 7- The square shape of the windows 	 Osiris apartments		
Mobridge Masonic Temple	Unknown	Mobridge, 1923	<ol style="list-style-type: none"> 1- Solid and battered walls 2- Upward narrowing window frames 3- Plastering above the entrance wall under the ceiling 4- Narrow strip columns with lotus design 5- Facade color 6- Specific and pure geometry 7- Symmetrical plan 	 Mobridge Masonic Temple	Bab El-Amara gate of Khonsu temple	 Gate of Khonsu Temple
Zaring's Egyptian Theatre	Frank B. Hunter	Indianapolis, 1925	<ol style="list-style-type: none"> 1- Arches in front of the stage 2- Diagonal buttress arches 3- Egyptian decorative motifs 4 - Symmetrical view 	 Zaring's Egyptian Theatre	Ramses III Tomb	 Tomb of Ramesses III.
Pharaoh's court apartments	George L. Stowe	San Diego, 1928	<ol style="list-style-type: none"> 1- Statue of the capitals 2- Egyptian decorative motifs 3- Color facade 4- large light-filled spaces 5- Simple and pure volumes 	 Pharaoh's court apartments	Luxor Temple	 Luxor Temple.
Luxor Hotel Las Vegas	Veldon Simpson	Nevada, 1993	<ol style="list-style-type: none"> 1- The pyramidal shape of the building similar to the pyramids of Giza 2- Sphinx statue 3- Stable geometric organization 4- Using Egyptian decorative elements 	 Luxor Hotel Las Vegas	Red Pyramid	 Red Pyramid.

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