

IMITATION OF THE LOTUS FLOWER IN ARCHITECTURE: ITS USE IN THE DECORATION OF WALLS AND CEILINGS OF PALACES, HOUSES, AND TOMBS IN ANCIENT EGYPT

IMITACIÓN DE LA FLOR DE LOTO EN ARQUITECTURA: SU USO EN LA DECORACIÓN
DE LOS MUROS Y TECHOS DE PALACIOS, CASAS Y TUMBAS EN EL ANTIGUO EGIPTO

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Abstract

Plant motifs were of great importance in the arts of ancient Egypt. It was very interested in decorative units and its aesthetic forms. The lotus flower is one of the most well-known plants in ancient Egyptian civilization due to its association with the religious and daily life of the ancient Egyptians. This fragrant flower in its colors white, blue, red, and as a sacred symbol in the life of the ancient Egyptian was not only an aesthetic decorative component that was depicted by the ancient Egyptians on walls of temples, or used in the manufacture of perfumes and cosmetics, but also used it in the decoration of palaces, houses and tombs in a specific decorative form.

This study investigates on how the ancient Egyptians imitated the lotus flower in architecture and used it in decorative decoration of walls and ceilings in naturalistic scenes on walls or ceiling decoration with floral composition, and also in the form of pattern border strip (frieze), both in civil architecture such as palaces, houses and religious architecture such as tombs.

Keywords: lotus flower, lotus frieze, architecture, decoration, walls, Palaces and Houses, ancient Egypt.

1. Introduction

The Egyptians' fondness for flowers is very clear in daily photography, their official life and personal entertainment, in homes, gardens, temples and various places. No celebration, religious ritual, or outing, whether for the living or the dead, was not complete without flowers.¹ Even the casual tourist is struck by the regularity with which this plant recurs in Egyptian art and architecture and modern artists, architects and publishers utilize its delicate flower as an easy and sure way of creating an Egyptian atmosphere.²

The meandering arms of the river in the Delta, the banks of the Nile were lined by swamps, characterized by the luxuriant growth of different

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types of plants.³ Best known of all Egyptian plants are those usually called “lotuses”, but known botanically as *Nymphaea Lotus* and *Nymphaea Caerulea*.⁴ The Lotus flower is also called water lily is the most famous aquatic plant from Egypt that belongs to the *Nymphaeae* family.⁵

The lotus plant grew in the shallow branches of the Nile, in static ponds in large areas, and on the surfaces of tranquil canals water, where water as if in its state at the beginning of creation. Lotus considered is an aquatic plant that belongs to the *Nymphaeaceas* family of perennial aquatic plants. These plants cannot live far from water, as they need an abundant amount of it, and it must remain surrounded by water, so that they can absorb it from all their surface. The shape of it is round, with a slit in the middle of a semicircle, and it floats on the surface of the water.⁶ Lotuses close after pollination and submerge, and then the pod surfaces and disperses the seed. It needs plenty of sun, and a minimum temperature of 75 F. Neither waterlily was much used as a medicine.⁷

Possibly because it closed its petals at night and reopened them with the rising sun the lotus flower came to symbolize the sun. The ancient Egyptian saw in them an image of rebirth or regeneration. It was used to symbolize the deceased's entering into the Netherworld and the rebirth in the hereafter to a new life.⁸ On the other hand, the association of the Lotus flower with art and architecture is one of the most familiar visual aspects of the ancient Egyptian civilization, where it was widely used in the decoration of quantities of different types of objects.⁹

It is noteworthy that, there are three species of lotus in ancient Egypt: The first one is white lotus (*Nymphaea lotus*) (figs.1 a, b). The leaves of white lotus are serrated, has rounded petals, and leaves with toothed edges, the blossom is cup-shaped,¹⁰ and it has very large flowers.¹¹ It has prominent veins in the lower surface. The sepals veined with white with a purplish tint beneath.¹² It grows in South Africa and Southeast Asia. Its petals are white with a yellow base, and yellow stamen, while the sepals of this flower are green.¹³

It was known at least as early as the pyramid era. It decorated monuments and everyday scenes and woven into garlands.¹⁴ It was depicted in the ancient Egyptian art with its whole leaves and petals, as well as in the case of depicting buds or flowers, which makes it easy to identify this type.¹⁵



Fig. 1a. White lotus (*Nymphaea lotus*)
Tomashevskaja, *Sacred Floral Garlands*, fig.45.



Fig. 1b. White lotus (*Nymphaea lotus*)
Keimer, “*Nymphaea Lotus*”, 39, fig. IV.

The second is blue lotus (*Nymphaea caerulea*) (figs. 2a, b). The leaves of the blue parted with entire margins, buds and petals elegantly pointed,¹⁶ floating leaves with smooth edges,¹⁷ and it has a slightly smaller flower.¹⁸ The

rhizome of this type is thick, sepals slightly are longer than the petals.¹⁹ This flower was the favorite among all the lotus flowers that were used extensively in the architectural aspect and was represented by the shapes of the temple columns that imitate the lotus bud.²⁰ Moreover, it has an intense perfume.²¹

White and blue types of lotuses were frequently used in architectural, personal, and ceremonial decoration.²² They are scarcely more than varieties, as their seeds and roots are closely similar. The ancient Egyptians distinguished between the blue and the white, preferring the blue, which they called *Beshnin Araby* (Arabian lotus *يا برعلا نينشبالا*), to the white, which they called *Beshnin el-Khanzir*.²³



Fig. 2a. Blue lotus (*Nymphaea Caerulea*) Tomashevska, *Sacred Floral Garlands*, fig.46. Fig. 2b. Blue lotus (*Nymphaea Caerulea*) Keimer, "Nymphaea Lotus", 39, fig. IV.

The third type is red lotus/the pink Nile lily (*Nymphaea Speciosum*) (fig.3). It is completely different, as it is bushy plant with cup-shaped, leaves that stand high above water, about 30cm, above the level of the water with its large, rounded leaves a conspicuous fruit, and prickly roots.²⁴ Its flowers are white tinged with a delicate pink. The fruit is like a large shower head, composed of separate carpels, in each of which is a single black seed, looking like an olive. It has been identified with Pythagoras's "Egyptian Bean", and Herodotus reported that the roots and seeds were eaten by the Egyptians (fig. 3).²⁵

This type is no longer grows in Egypt; due to its sacred associations, that this flower did not appear in profane illustrations. This would also be a creditable reason why the fruit of the pink lotus has never been found in tombs.²⁶



Fig. 3. Red lotus (*Nymphaea Speciosum*)
عبد الحميد عزب: الأهرام في مصر الفرعونية، ص34، شكل 4.²⁷
Azab A., *Marshes in Pharaonic Egypt*, 34, fig. 4.

2. Wall decorations

We now reach the largest and most complex growth of ancient Egyptian ornament in the lotus, so widely spread that some have seen in it the source of all ornament,²⁸ where it was an important part in decoration, whether as fresh floral decoration or as decorative element represented in durable materials.²⁹ The decoration motif was to imitate the lotus flower as an architectural component, where the lotus flower was main imitation among the rest of other flowers. So, it was used in the decoration of walls, ceilings, and floors.³⁰

The oldest use of the lotus was in groups of two flowers tied together by the stalks (fig. 4); such are found on the prehistoric pottery at *Koptos*, and on the earliest tombs, but in later times this became corrupted, and the origin apparently forgotten, by the 18th dynasty.³¹

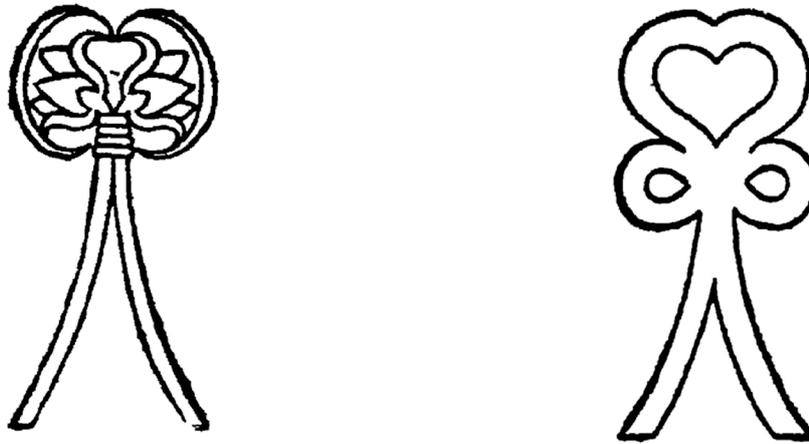


Fig. 4. Groups of two lotus flowers tied together as a decoration ornament.
Petrie, *Egyptian Decorative Art*, 62.

The floral garlands and similar decorations of lotus can be seen as at Malqata palace of the King Amenhotep III, the buildings that were most beautifully decorated with paintings were the temple of Amun and the palace complex, with halls of columns and the *Ḥarim* wing. The doorways, windows and balconies of these structures were embellished with festive friezes of faience lotus flowers and grape bunches.³²

In addition, wall decorations in Kings' houses wall paintings that was discovered in the King's House in Amarna from the 18th Dynasty considered one of the well-known models. Petrie was the first to excavate the King's House, in 1891-2. He was fortunate in discovering several areas of wall-painting still in situ. He considered that there had been many more paintings originally, but that these had disappeared due to the destruction of the walls by villagers removing the mud bricks for fertiliser. The wall-paintings were probably all found in the north-eastern block, a complex of rooms which included a hypostyle hall, immediately to the south of the garden court.³³

The palace ruins reveal fragments of large, brilliant wall inscriptions and representations set out in faience and coloured stone. They show the natural world unfolding, paradise-like, on land and in water: geese fly over the water and fish swim among lotus flowers in pools of water.³⁴ It is especially in-



Fig. 6. Scene of birds flying, and swamp plants shows lotus blossoms among the decoration elements - northern Palace - Amarna.

Wilkinson, *Egyptian Wall Paintings*, 24, fig. 19.

It should be noted that, evidence for several dados in the King's House was found in 1993. The design consists primarily of striped 'false-door' panels alternating with panels containing heraldic plants of the north and south. The plants are either blue lotus with a red central petal, or green papyrus plants detailed with red on the umbels and at the base of the stalks. They are painted on a yellow ground. The false-door panels are made up of stripes, alternatively blue and green, enclosing a red central stripe on three sides (fig. 7a).³⁹ More instructive, however, is the fragments of lotus flowers that were used in walls decoration, where there are various of these fragments in different museums (fig. 7b).⁴⁰

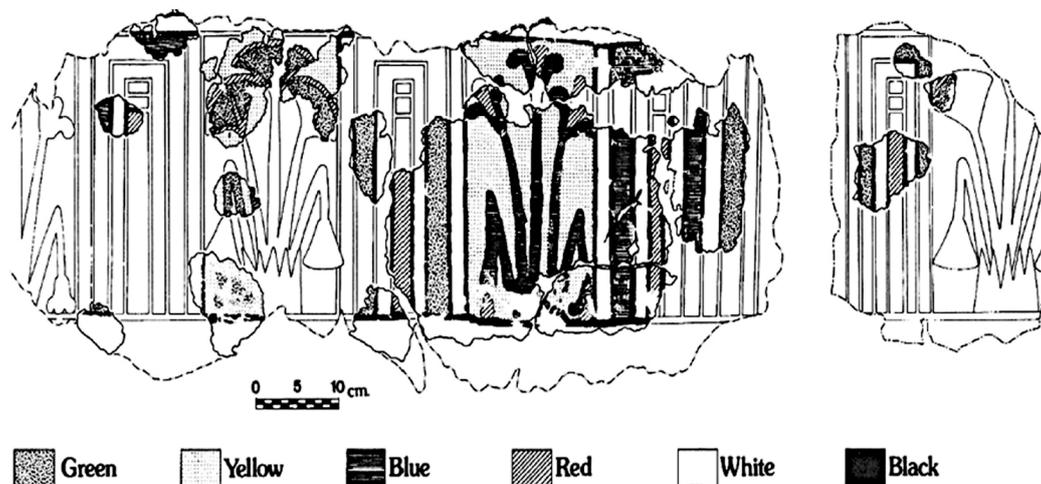


Fig. 7a. Lotus flower ornament in the middle from dado design - Amarna.

Weatherhead, "Wall-Paintings from the King's House at Amarna", 107, fig. 7.⁴¹

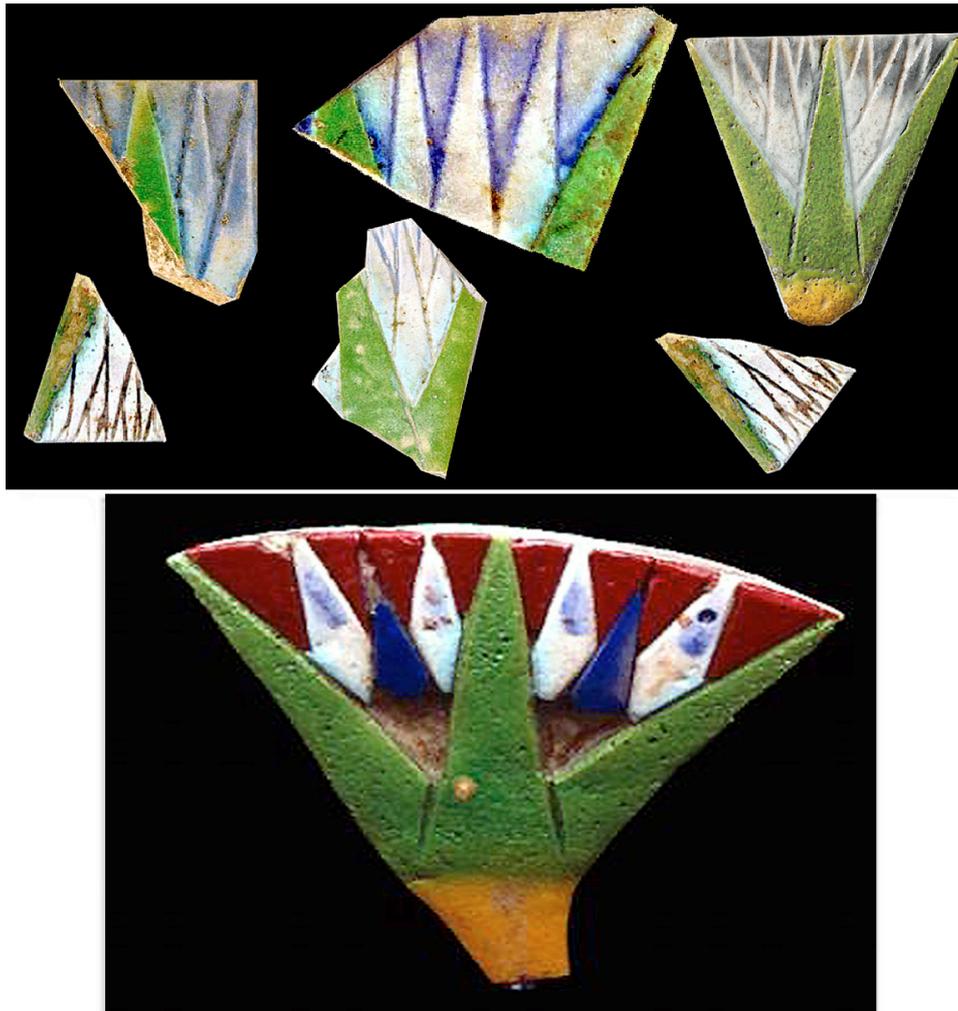


Fig. 7b. fragments of lotus flower. K. Seyfried, *Amarna*, 221.

Investigations in 1993 showed that the set of small rooms, which included the 'Princesses panel' room and the corridor south of the room with dais, had been painted throughout with dado designs in an arrangement⁴² all-round the bottom was a painted skirting about 18 ins. high, divided into squares with papyrus and lotus plants painted in them, which consists of panels of papyrus and panels of blue lotus sequentially.⁴³ On the east side of the doorway in the south wall of this room, more dados survive. The sequence of panels exposed represented: lotus and papyrus with stripes in different colors on the wall.⁴⁴

Besides the above mentioned, one of good examples of the floral decoration which includes lotus flower among its components, is the discovery on the east wall of the court of the *Ḥarim* of the palace of Akhenaten at Amarna, where it represents a lake, lotus plants, an overseer and servants with cattle, a winding canal, the shores being painted black to shew Nile mud.⁴⁵

Lotus Frieze

Flowers, like the lotus, is the main motif in these patterns. This flower imitates actual wreaths used as decoration on the walls. The friezes shown in the corners, a traditional decorative motif. It was much used during the New

Kingdom in the private Theban tombs, and often formed the upper border of scenes painted in the first chamber.⁴⁶ It is noteworthy that, the lotus was used in this decoration in repetition as a border pattern (decoration of lotus frieze) on the upper part of the walls (fig. 8), but not apparently before the 18th dynasty. It was being implemented in alternation with buds, which fit harmoniously into the curves between the flowers. This line of flowers and buds was varied as flowers and grapes very often in the 18th dynasty.

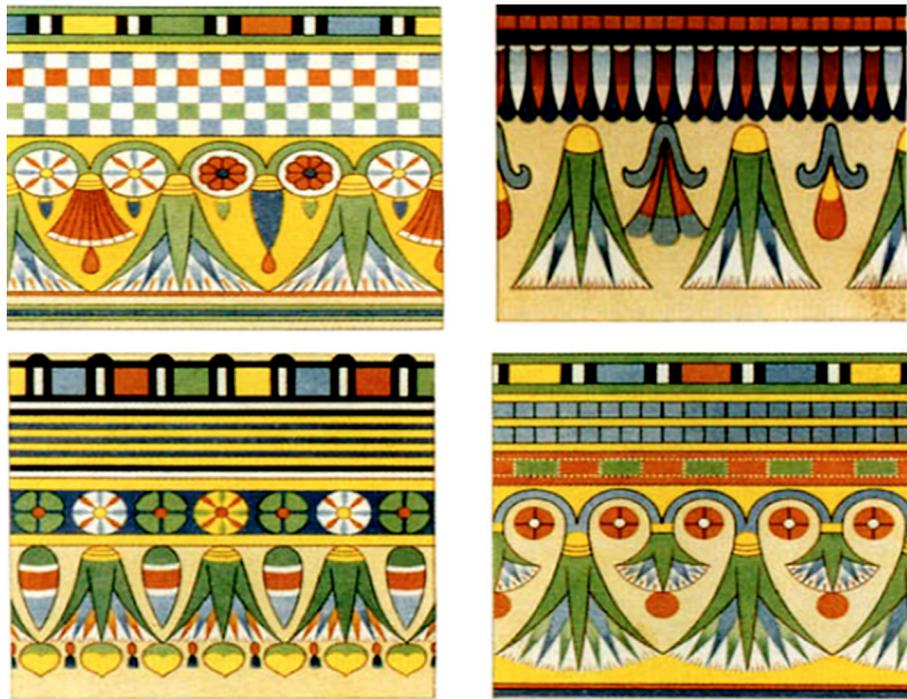


Fig. 8. Different examples of lotus friezes (lotus border pattern).
Prisse d'Avennes, *Atlas of Egyptian Art*, 13.

The flower and bud were further developed in a mechanical fashion, and we can trace a continuous series of forms beginning in a flower and bud pattern and modifying the intermediate member.⁴⁷ Sometimes, it was depicted in rectangles and triangles in contrasting colors, and in compound circles; to form a chain of rings, inside which are assemblies in the form of a flower or star in alternating lines in the form of lotus flowers.⁴⁸

It is especially interesting, the decoration of lotus frieze that has adorned a wall of a palace of Ramesses III at Tell el Yahudiya in lower (northern) Egypt. Now it is in the Brooklyn Museum No. 55.182a-i. It presents identical frieze of lotuses (fig. 9), other flowers, and grape clusters. Register of nine fayence tiles representing lotus and grape frieze. Forms alternately conventionalized lotus flower and triangles, the latter inlaid with rosettes and bunches of grapes or with conventionalized tree (?). Polychrome glaze, red, blue, white yellow. Three lotus forms incomplete and two rosettes missing.⁴⁹

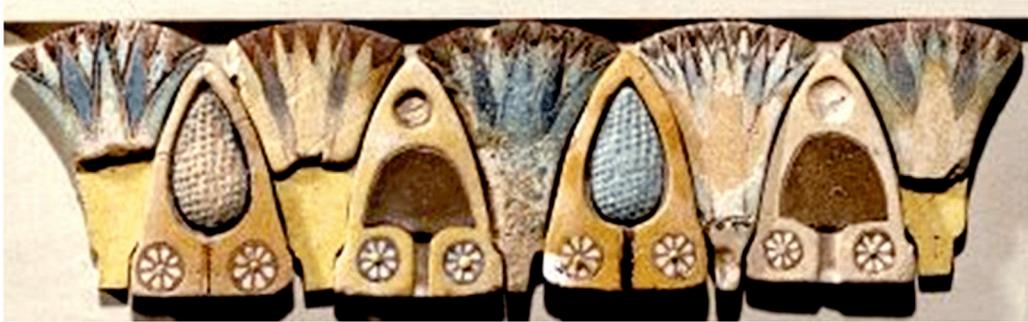


Fig. 9. Lotus frieze (lotus border pattern) - Brooklyn Museum.
<http://www.brooklynmuseum.org/opencollection/objects/3620>.⁵⁰

The floral garlands and similar arrangements of lotus elements can also be seen on wall decorations in houses and tomb wall paintings. These vegetative arrangements can be found portrayed on the wall friezes in the central halls of houses belonging to nobles in Amarna.⁵¹

The house of the Vizier *Nakht*, provides an artistic evidence for using different species of lotuses on wall decorations. In the hall of this house, a fragment of plaster with blue and white lotus leaves between bands of red and blue was discovered, which may have belonged to a design of coloured festoons round the top of the walls of the center hall (fig. 10).⁵²

More similar floral constructions were found in some of the galleries of house of *Ranufer*. A considerable amount of the wall plaster was discovered in the north gallery of this house. Different fragments of typical floral wreath of fruits, petals, and leaves were identified. These wreaths were surmounted by a straight frieze of inverted lotus flowers and buds (fig. 11). Matching floral decoration was also found on the plaster walls of house M.50.16.⁵³

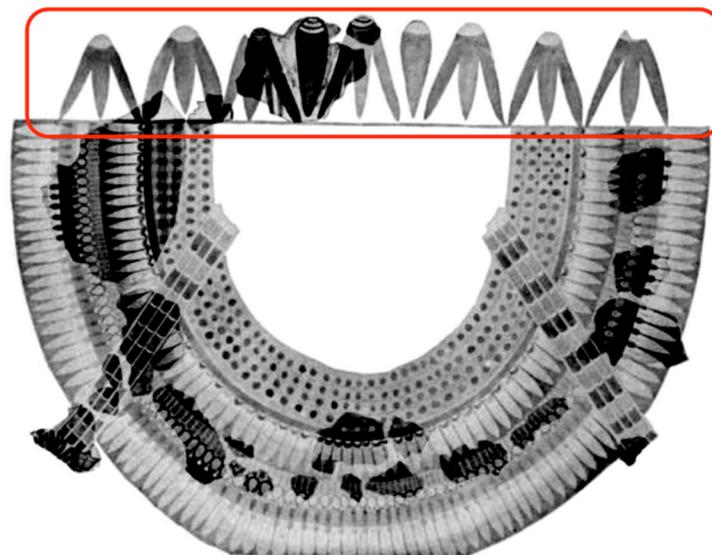


Fig. 10. Painted floral design parallel to a collar found on the walls in the house of vizier *Nakht*- Amarna.

Tomashevskaja, *Sacred Floral Garlands*, 35, fig. 38.

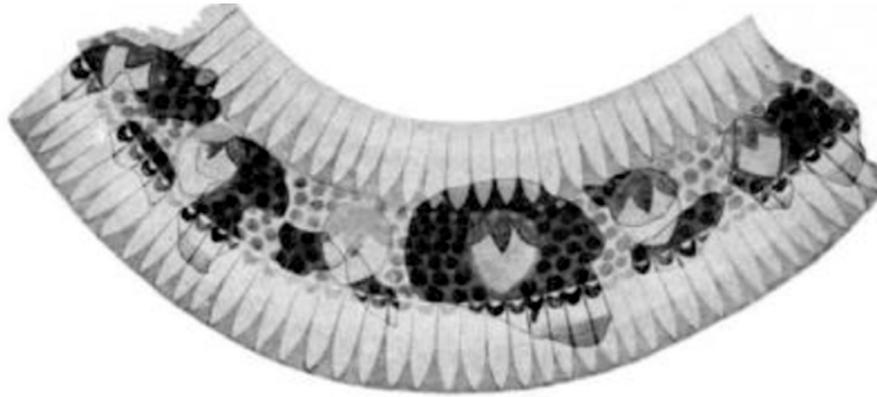


Fig. 11. Wreaths of lotus petals, mandrakes and berries painted on the walls in the house of *Ranuser* – Amarna.
Tomashevska, *Sacred Floral Garlands*, 35, fig. 39.

A particularly significant colorful fragment wall painting from gesso on mud portrayed ducks and lotus flowers used in decoration of the wall, was also discovered in Amarna (fig. 12). Now preserved in the British Museum no. EA58832.⁵⁴ This piece is of interest, because we can imagine the magnificence and beauty of the decoration that used to decorate the walls, give it a character of beauty and charming elegance.



Fig. 12. Wall painting portrayed lotus blossoms decoration, Amarna, British museum.
T. G. H Games, *Egyptian Painting and Drawing*, fig.39.

Besides the aforementioned, more wall paintings in tombs provide similar representations of the lotus floral decoration. Treatment of this point is apt to be very dull when colored plates cannot be providing, however, avail-

able scenes from various tombs provide a clear vision for tracing the decoration with lotus frieze.

The tomb of *Kenamun*, bearing no. 93 at Thebes from the reign of the king Amenhotep II, portrays a decoration of lotus frieze with colorful lotus frieze on the rear wall of the hall, right-hand portion. It is painted on good plaster above a foundation of mud and straw. The yellow background prevails throughout the tomb.⁵⁵ The lotus blossoms frieze appears in a straight-line (fig. 13).

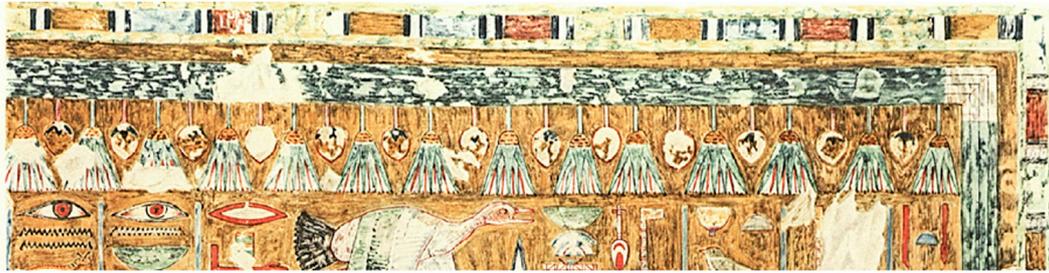


Fig. 13. Decoration of Lotus frieze consists of lotus flowers and lotus buds in a straight line - tomb of *Kenamun*, no. 93 - Thebes.

Davies, *Ancient Egyptian Paintings*, vol. I, pl. XXIX.

The lotus frieze was portrayed in different models and techniques during the reign of Ramses II. It appeared on the south side from the east wall of the outer hall in the tomb of *Khons* no. 31 at Kurnah from the same period.⁵⁶ The frieze above the scene shows group of lotus flowers consists of flowers and lotus buds (big and small) were further developed in a mechanical fashion repeatedly in a straight line.

Meanwhile, the tomb of *Nakhtamun* no. 341 at Kurnah,⁵⁷ from the same reign,⁵⁸ shows the lotus frieze with different technique in implementation, where it portrayed above the scene on the east and south walls, consists of two flowers (big and small). The small one is surrounded with other decorative elements repeated in a semi-circular shape (fig. 14).

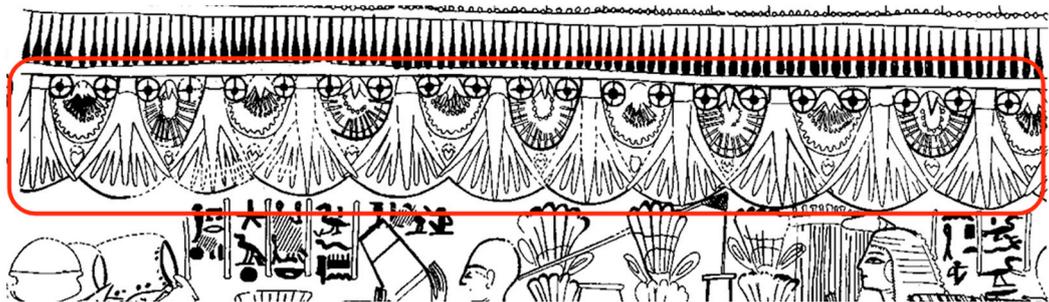


Fig. 14. Decoration of Lotus frieze in a semi-circular shape - tomb of *Nakhtamun* no. 341 - Kurnah.

Davies, *Seven Private Tombs at Kurnah*, pl. XXVIII.

It seems that not only the lotus flower and lotus bud were used in the decoration frieze, but moreover, a new component of decoration appears in the lotus frieze. Where lotus flower is portrayed in alternation with grapes in a straight line on the south side of the east wall from the outer hall in the

tomb of *Neferronpet*, no. 133 at Kurnah (fig. 15),⁵⁹ from the same reign.⁶⁰ In the same manner, another example dates to 18th dynasty preserved in the Egyptian Museum in Cairo, represents border patterns of lotus flower decoration with the grapes. Where the lotus flower is depicted in beautiful harmony and juxtaposition with the grapes, thus symbolize with the lotus, happiness, renewal, and lasting growth.⁶¹

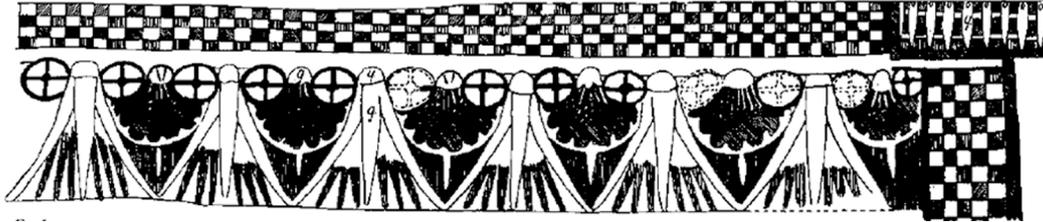


Fig. 15. Decoration of Lotus frieze in alternation with grapes in a straight line - tomb of *Neferronpe*, no. 133 – Kurnah.

Davies, *Seven Private Tombs at Kurnah*, pl. XXXV.

Based on the preceding information, it is notable that, the decoration techniques that were used lotus flower in the frieze decoration on the walls of tombs, were varied, during the reign of the King Ramses II. Thus, it seems rationale to be as an indication to the multiplicity of decoration patterns with the lotus flower and its magnificent diversity, perhaps, during the reign of each king separately.

In addition to the above mentioned examples, the decoration of the lotus frieze was implemented on the west side of the north wall from the outer hall of the tomb of *Hatiay*, no. 324 at Kurnah (fig. 16),⁶² from Rameside period.⁶³ Where the lotus flower is used in alternation with lotus bud in a straight line.

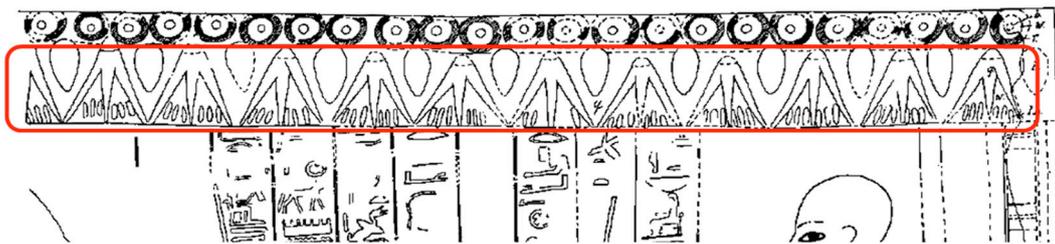


Fig. 16. Decoration of Lotus frieze– tomb of *Hatiay*, no. 324 – Kurnah.

Davies, *Seven Private Tombs at Kurnah*, pl. XXXIII.

On the other hand, lotus decoration was portrayed on wall tombs as a main decoration, not just as border pattern frieze. It is portrayed on the east side of the north wall in the tomb of *Huya*, the framework of a scene shows the Queen is certainly Nefertiti, though her name is erased; the two princesses here are the eldest of the four. The elaborate decoration of the balcony, which is destroyed on the neighbouring wall, is here well preserved, and consists of concentric semicircles of various colours with three open lotus flowers at the centre.⁶⁴

3. Ceiling Decorations

Two types of the ceiling architecture had been known at the ancient Egyptian architecture: the domestic one, which call (the residential architecture) as the mud-brick architecture, and the religious one, which call (the religious architecture) as to be the stone architecture. The latter also divided into two sections, the first designated to the temples of the gods and goddesses (divine one), the second is the funerary architecture, which dedicated to their dead.⁶⁵

In fact, artistic evidence for the use of the lotus flower in the ceiling decorations of palaces is not abundant. Fragments of ceiling with lotus flower, uncovered in room K1 of the King's Amnhotep III Palace at Malaqta, provides an artistic evidence for using the lotus flower in the decoration of the ceilings in palaces.⁶⁶

Meanwhile, in houses of ancient Egyptians, it was customary to cover the wooden ceilings with colored fabric; actual examples of these textiles have been found. These patterns were imitated in the painted ceilings of tombs. The interlocking spirals of these patterns connect in various ways, forming spaces filled with colors and motifs such as geometric and vegetal forms, like the spiral of lotus flower.⁶⁷ This is due to the difference between building materials that were used in building houses, where it was built of mud-brick. Meanwhile, tombs were built with stone, because the ancient Egyptians were looking forward permanence and immortality for their eternal residence.

Based on the preceding information, artistic evidence for the use of the lotus flower in the ceiling decorations of tombs is available. It is used in the tomb of *Kha*, no. T8 at Thebes, from the reign of the king Amenhotep II – Amenhotep III. The ceiling painted with lotus blossom decoration.⁶⁸ The repeating pattern consists of lotus/buds then lotus/grapes alternately in a straight line (fig. 17).

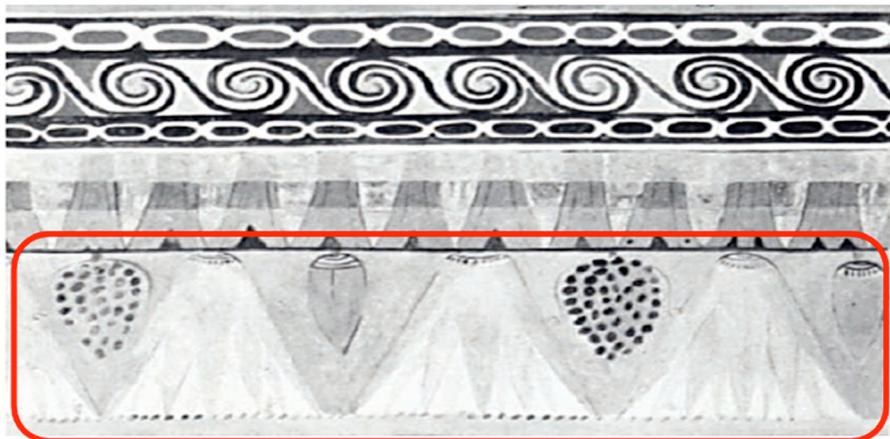


Fig. 17. Ceiling decoration with lotus flower, lotus buds and grapes - tomb of *Kha*, no. T8 - Thebes.

Wilkinson, *Egyptian Wall Paintings*, 110 (30.4.3).

Lotus decoration appeared also in the tomb of *Neferhotep*, no. 50 at Thebes, from the reign of the king *Haremhep*, where the artist showed prowess in ceiling decoration. The ceiling painted on a coat of plaster which is very thin except where faults in the limestone. The colours have been of the spirals has been strengthened. The ceiling pattern proper is devised so as to display the name and the title of *Neferhotep* in rough squares with a white back-ground. The squares are enclosed within hexagons, red for the title and blue for the name, above which, in the interval between the yellow spirals, is a red floret with green center and black edge. The lotus blossoms and buds fill space, the alternation of colours, red, blue, green, blue, yellow (fig. 18), so much favoured by the ancient Egyptians. The whole pattern is arranged in such a way as to leave no empty spaces and to eliminate all ugly lines.⁶⁹

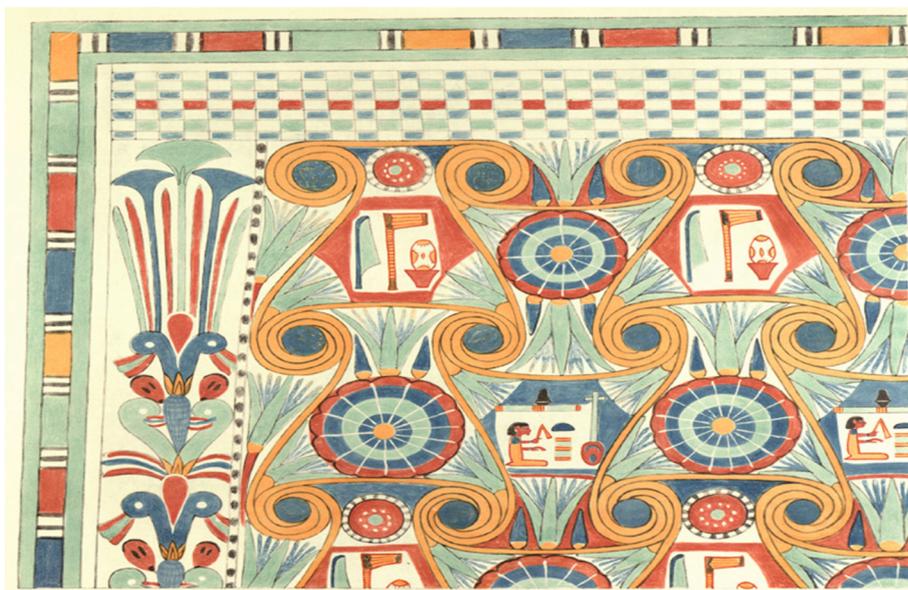


Fig. 18. Ceiling decoration with lotus flower between geometric shapes - tomb of *Neferhotep*, no. 50, Thebes.

Davies, *Ancient Egyptian Paintings*, vol. II, pl. LXXXIII.

On the other hand, colored ceiling from the tomb of *Nespneferho*, no. 68 at Thebes, from the same period painted on a thin wash of white above a layer of coarse brown mud and straw. The ceiling is bisected longitudinally by a yellow band bearing a polychrome inscription partly painted out. On either side of this yellow band are rectangles of different repeating patterns edged by borders set back to back with an intervening shorter yellow band with blue margin. Part of one of these rectangles is here illustrated. The repeating pattern consists of bunches of grapes and vine-leaves alternately. The brilliantly coloured border consists of lotus-blooms separated by various fruits and flowers (fig. 19), amongst which pomegranates and grapes are alone clearly recognizable.⁷⁰

Among the remarkable ceiling decorations, is the magnificent colored ceiling in the tomb of *Inherkhâouy* from the Ramesside period. The ceiling includes single pattern repeated twice. The main characteristics of this part are the great colouristic richness of the whole and the extreme complexity of certain themes. The vault of the tomb is divided into eight caissons decorated with framing the caissons, three bands of inscriptions share the ceiling along

the east axis. All are on a yellow background. Inside each box, the composition is surrounded by a garland of lotus petals: green at the base and blue on the side of the tip, but on each side of the boxes, a few petals like those of the tomb of *Inherkhâouy*. The other inscriptions are black or blue and lotuses blossoms in the center are yellow at the base and red at the tip.⁷¹

Based on the preceding information it should be noted that, ceilings of tombs were a perfect area that enable the artist to depict different styles and various techniques of decoration by using the lotus flower among other decorative components.

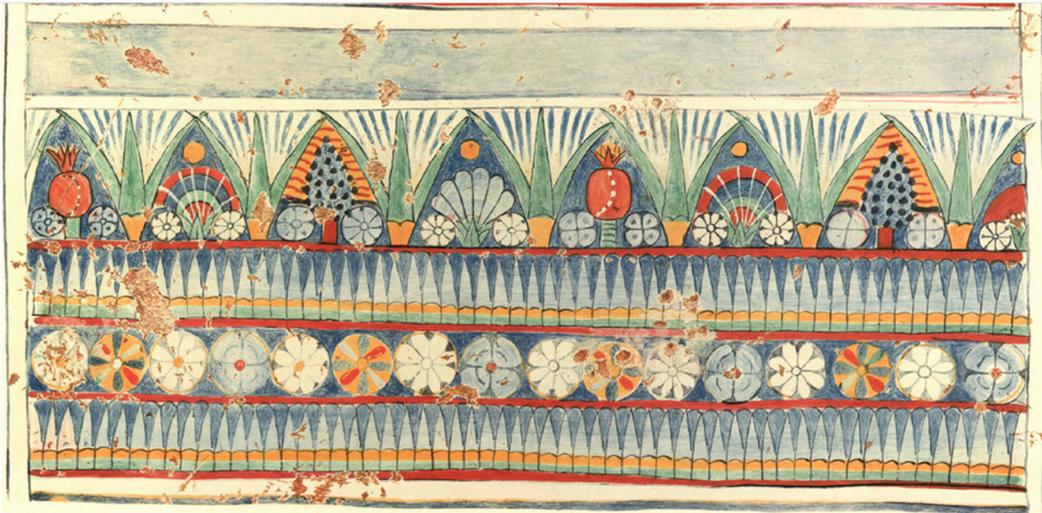


Fig. 19. Ceiling decoration with lotus flower separated by various fruits and flowers - tomb of *Nespneferho*, no. 68, Thebes.

Davies, *Ancient Egyptian Paintings*, vol. II, pl. CIV.

4. Conclusions

Imitating the lotus blossoms in decoration art would refer to its importance in the life of ancient Egyptians, its frequent repetition and usage directly confirming its function as a significant decorative component. As the ancient Egyptians used it extensively as a decorative form in the decoration of the walls and ceilings of tombs as a model for religious architecture, houses, and palaces as civil architecture.

This decoration in the tombs was summed up in making assemblies of lotus flowers and other plants within geometric shapes that cover the ceiling and give it an aesthetically pleasing form. As for the houses and palaces, the decoration was an aesthetic scene on the walls, showing the lotus in the middle of a scene that includes birds, fish, and other animals as a background for the wall, which is similar to the idea of modern portraiture.

The lotus flower was also used in the decoration of the walls in the form of a decorative frieze (edging strip) consisting of a group of lotus flowers which are shown repeatedly (a flower to the top, followed by a flower to the bottom) either in a straight line or in a semi-circular shape, and it was alternating with either the lotus bud or the other flowers as well as fruits such as grapes and pomegranate in a beautiful composition and harmony, and this decorative frieze was placed in the middle or top of the wall, whether in tombs or houses.

The archaeological and artistic sources that illustrate this idea in ancient Egypt varied, whether within the scenes of tombs, or in the ceiling and the walls, in addition to the houses and palaces as it appeared during the Amarna period. More importantly, the presence of archaeological pieces of these decorations in some museums such as the British Museum, the Brooklyn Museum and the Cairo Museum confirms the decorative concept and illustrates the genius of the ancient Egyptian in implementing these decorative methods of decoration, as well as the extent of his skill in imitating the plant elements that surrounded him in the decoration of the walls and ceilings of his houses and tombs.

NOTES

- ¹ Barbara Sewell, *Egypt under the Pharaohs* (New York: Putnam, 1968), 25.
- ² William Darby, Paul Ghalioungui and Louis Grivetti, *Food: The Gift of Osiris*, vol.2 (London: Academic Press, 1977), 620-621.
- ³ Helene Kantor, *Plant Ornament in the Ancient Near East* (Doctoral Thesis, University of Chicago, 1945), 1999, 7.
- ⁴ Helene Kantor, *Plant Ornament in the Ancient Near East* (Doctoral Thesis, University of Chicago, 1945), 1999, 56.
- ⁵ Marija Tomashevskaja, *Sacred Floral Garlands and Collars from the New Kingdom Period and Early Third Intermediate Period in Ancient Egypt. 1550 BC–943 BC* (Master Thesis, University of Leiden, 2019), 41; Cf: Clair Ossian, “The most Beautiful of Flowers: Water Lilies and Lotus in ancient Egypt”, *KMT Journal* vol. 10, no. 1 (1999): 48-59.
- ⁶ Georges Perrot, and Chipiez Charles, *Histoire de l'art dans l'Antiquité: Égypte, Assyrie, Perse, Asie Mineure, Grèce, Etrurie, Rome*, Tome Premier: L'Égypte (Paris: Hachette et cie, 1882), 580-583; Nymphaea family is perennial aquatic rhizomatous herbs leaves broadly elliptic-ovate to orbicular, with a deep basal sinus, flowers solitary, actinomorphic, the remainder petaloid, stamens numerous, the outer petaloid, carpels 8 or more, ovary semi-inferior; Loutfy Boulos, *Flora of Egypt*, volume one (Egypt: Al Hadara Publishing, 1999), 152.
- ⁷ Alex Wilkinson, *The Garden in Ancient Egypt* (London: Rubicon Press, 1998), 54.
- ⁸ Renate Germer, “Flowers”, in *The Oxford Encyclopedia of ancient Egypt*, ed. Donald Redford, vol .1, translated from German by Julia Harvey (Oxford: Oxford University Press, 2001), 541.
- ⁹ Tanja Pommerening, Elena Marinova, and Stan Hendrickx, “The Early Dynastic Origin of the Water-Lily motif”, *Chronique d'Égypte* vol. LXXXV (2010), 14.
- ¹⁰ Ema Brunner-Traut, “Lotos”, *Lexikon der Ägyptologie* vol. 3 (1980), 1091; the name of this type is Seshen ; Victor Loret, *La flore pharaonique d'après les documents hiéroglyphiques et les spécimens découverts dans les tombes* (Paris: E. Leroux, 1892), 142; Alan Gardiner, *Egyptian Grammar: being an Introduction to the Study of Hieroglyphs* (Oxford : Griffith institute, 1957), 480 M9, 592, 617; Raymond Faulkner, *A Concise Dictionary of Middle Egyptian* (Oxford : Oxford University Press, 1991), 248; Rayner Hannig, *Großes Handwörterbuch: Ägyptisch-Deutsch*, Lexica 1 (Mainz : Verlag Philipp von Zabern, 2005), 831{30646}; Adolf Erman and Herman Grapow, *Wörterbuch der Aegyptischen Sprache*, Band, IV (Berlin: JC Hinrichs, 1971), 485, 12; for more information about changing the name from the Hieroglyphic writing to Coptic (being *shoshe*) and in Hebrew (being *shushan*) then its derivation in Latin, see: Georges Bénédict, *La Cueillette du Lis et le “Lirion” A Propos D'un bas-relief et d'un Fragment de bas-relief au Musée du Louver* (Paris, 1921), 17ff.
- ¹¹ Ian Shaw and Paul Nicholson, *The British Museum Dictionary of ancient Egypt*, (Egypt: The American University in Cairo Press, 2002), 164.

- ¹² Loutfy Boulos, *Flora of Egypt*, volume one (Egypt: Al Hadara Publishing, 1999), 152.
- ¹³ Marija Tomashevska, *Sacred Floral Garlands and Collars from the New Kingdom Period and Early Third Intermediate Period in Ancient Egypt*. 1550 BC–943 BC (Master Thesis, University of Leiden, 2019), 41; it is the largest of the three lotus species in Egypt, and it was well-known because of its white leaves, petals, round buds and floating leaves. It is now rare in Egypt but has spread towards the south in Equatorial Africa; Nigel Hepper, *Pharaoh's Flowers* (London, 1990), 16.
- ¹⁴ William Darby, Paul Ghalioungui and Louis Grivetti, *Food: The Gift of Osiris*, vol.2 (London: Academic Press, 1977), 633.
- ¹⁵ Ludwig Keimer, "Note sur la representation exacte d'une feuille de *Nymphaea Lotus* L. sur un bas-relief de la basse Époque", *Annales du service des antiquités de l'égypte* vol. 28 (1928), 39, fig. IV; Loutfy Boulos, *Flora of Egypt*, volume one (Egypt: Al Hadara Publishing, 1999), 152-154.
- ¹⁶ Ema Brunner-Traut, "Lotos", *Lexikon der Ägyptologie* vol. 3 (1980), 1091.
- ¹⁷ Renate Germer, "Flowers", in *The Oxford Encyclopedia of ancient Egypt*, ed. Donald Redford, vol. 1, translated from German by Julia Harvey (Oxford: Oxford University Press, 2001), 541; This type was known as Serpet ; Victor Loret, *La flore pharaonique d'après les documents hiéroglyphiques et les spécimens découverts dans les tombes* (Paris: E. Leroux, 1892), 142; Leonard Lesko and Susanne Barbara, *A Dictionary of Late Egyptian*, vol. 3 (California: Scribe Publication, 1987), 72; Adolf Erman and Herman Grapow, *Wörterbuch der Aegyptischen Sprache*, vol. 4 (Berlin: JC Hinrichs, 1971), 195, 1-2.
- ¹⁸ Ian Shaw and Paul Nicholson, *The British Museum Dictionary of ancient Egypt*, (Egypt: The American University in Cairo Press, 2002), 164.
- ¹⁹ Loutfy Boulos, *Flora of Egypt*, volume one (Egypt: Al Hadara Publishing, 1999), 152, 153; Cf: Renate Germer, *Flora des pharaonischen Ägypten* (Mainz am Rhein: P. von Zabern, 1985), 38. 
- ²⁰ Nigel Hepper, *Pharaoh's Flowers* (London, 1990), 16.
- ²¹ Renate Germer, "Flowers", in *The Oxford Encyclopedia of ancient Egypt*, ed. Donald Redford, vol. 1, translated from German by Julia Harvey (Oxford: Oxford University Press, 2001), 541.
- ²² Marija Tomashevska, *Sacred Floral Garlands and Collars from the New Kingdom Period and Early Third Intermediate Period in Ancient Egypt*. 1550 BC–943 BC (Master Thesis, University of Leiden, 2019), 41.
- ²³ William Darby, Paul Ghalioungui and Louis Grivetti, *Food: The Gift of Osiris*, vol.2 (London: Academic Press, 1977), 634.
- ²⁴ Ema Brunner-Traut, "Lotos", *Lexikon der Ägyptologie* vol. III (1980), 1091; *Nekhep* is the name of this type; Loret, *La flore pharaonique*, 141; Alan Gardiner, *Egyptian Grammar: being an Introduction to the Study of Hieroglyphs* (Oxford : Griffith institute, 1957), 480 M10; Raymond Faulkner, *A Concise Dictionary of Middle Egyptian* (Oxford : Oxford University Press, 1991), 136; Adolf Erman and Herman Grapow, *Wörterbuch der Aegyptischen Sprache*, Band, II (Berlin: JC Hinrichs, 1971), 307.
- ²⁵ Alex Wilkinson, *The Garden in Ancient Egypt* (London: Rubicon Press, 1998), 60; Georges Bénédite, *La Cueillette du Lis et le "Lirion" A Propos D'un bas-relief et d'un Frqgment de bas-relief au Musée du Louver* (Paris, 1921), 18.
- ²⁶ William Darby, Paul Ghalioungui and Louis Grivetti, *Food: The Gift of Osiris*, vol.2 (London: Academic Press, 1977), 634.
- ²⁷ Abd el-Hamid Azab, *Marshes in Pharaonic Egypt, from the Pre-dynastic Period until The End of The Old Kingdom*, (Master thesis, Tanta University, 1993), 34, fig. 4.
- ²⁸ Flinders Petrie, *Egyptian Decorative Art*, second edition (London: Methuen, 1920), 61.

²⁹ Renate Germer, “Flowers”, in *The Oxford Encyclopedia of ancient Egypt*, ed. Donald Redford, vol. 1, translated from German by Julia Harvey (Oxford: Oxford University Press, 2001), 541.

³⁰ Emma Brunner-Traut, “Blume”, *Lexikon der Ägyptologie* vol. 1 (1975), 836.

³¹ Flinders Petrie, *Egyptian Decorative Art*, second edition (London: Methuen, 1920), 62.

³² Kampp-Seyfried (ed.), *In the Light of Amarna: 100 Years of the Nefertiti Discovery* (Berlin: Ägyptisches Museum und Papyrussammlung, Staatliche Museen zu Berlin, 2012), 103-104.

³³ Fran Weatherhead, “Wall-Paintings from the King’s House at Amarna”, *The Journal of Egyptian Archaeology* vol. 81 (1995), 95; the King’s House is part of a complex of ritual and administrative buildings located in the center of the ancient city of Akhetaten. It lies to the north of the Small Aten Temple and close to the Great Palace, to which it is connected by the Bridge, *ibid.*

³⁴ Kampp-Seyfried (ed.), *In the Light of Amarna: 100 Years of the Nefertiti Discovery* (Berlin: Ägyptisches Museum und Papyrussammlung, Staatliche Museen zu Berlin, 2012), 105, fig. 7.

³⁵ Marija Tomashevskaja, *Sacred Floral Garlands and Collars from the New Kingdom Period and Early Third Intermediate Period in Ancient Egypt. 1550 BC–943 BC* (Master Thesis, University of Leiden, 2019), 36, fig. 41 ; The plants which are painted on the walls and floors may express the desire of the king for a complete range of vegetation, from shady climbing plants, to lush riverbank reeds and flowers. Other water plants appear in abundance; Alex Wilkinson, *The Garden in Ancient Egypt* (London: Rubicon Press, 1998), 147.

³⁶ Cyril Aldred, *Akhenaten King of Egypt* (London: Thames & Hudson, 1988), 64, fig. 9.

³⁷ Nina Macpherson Davies, *Ancient Egyptian Paintings: Selected, Copied, and Described* by Nina M. Davies; with the Editorial Assistance of Alan H. Gardiner, vol. II: plates LIII-CIV (Chicago: University of Chicago Press, 1936), pl. LXXV; vol. III: descriptive text, 142, 143; Thomas Garnet Henry, *Egyptian Painting and Drawing in the British Museum* (Harvard University Press, 1986), fig.39.

³⁸ Charles Kyrle Wilkinson, *Egyptian Wall Paintings: The Metropolitan Museum of Art’s Collection of Facsimiles* (New York: Metropolitan Museum of Art, 1983), 24, fig. 19; 32 (30.4.136); precursors for the naturalistic wall paintings in Akhenaten’s palace at Amarna are also to be found in the palace at Malqata. Reconstructions of surviving fragments from the plastered walls show vivid and colourful scenes from nature; Kampp-Seyfried (ed.), *In the Light of Amarna: 100 Years of the Nefertiti Discovery* (Berlin: Ägyptisches Museum und Papyrussammlung, Staatliche Museen zu Berlin, 2012), 34.

³⁹ Fran Weatherhead, “Wall-Paintings from the King’s House at Amarna”, *The Journal of Egyptian Archaeology* vol. 81 (1995), 106; for more information see also: Fran Weatherhead, F., “Painted Pavements in the Great Palace at Amarna” *الوقائع المصرية / The Journal of Egyptian Archaeology* vol. 78 (1992), 179-194. غير منشور، كلية الآداب، جامعة طنطا، 1993، ص34، شكل 4؛

⁴⁰ Kampp-Seyfried (ed.), *In the Light of Amarna: 100 Years of the Nefertiti Discovery* (Berlin: Ägyptisches Museum und Papyrussammlung, Staatliche Museen zu Berlin, 2012), 220, 221; these fragments present inlay elements in the form of a lotus-flower incorporating glazed composition leaves of green, and flowers made from a combination of red, light blue and dark blue elements.

⁴¹ Shaded parts preserved in Liverpool Museum represent fragments of a polychrome faience plaque in the form of a blue lotus. White-bodied faience paste with green and blue glaze. This would have been inlaid into a larger arrangement of wall tiles; see Flinders Petrie, *Tell El Amarna* (London, 1894), pl. XIX; <https://www.liverpoolmuseums.org.uk/artifact/inlay-1>.

⁴² Fran Weatherhead, “Wall-Paintings from the King’s House at Amarna”, *The Journal of Egyptian Archaeology* vol. 81 (1995), 110, 111; Cf: Georges Daressy, “Le Palais D’Aménophis III el le Birket Habou”, *Annales du service des antiquités de l’égypte* vol. 4 (1903), 167.

- ⁴³ Francis Newton, "Excavations at El-'Amarnah, 1923-24", *The Journal of Egyptian Archaeology* 10 (1924), 296.
- ⁴⁴ Fran Weatherhead, "Wall-Paintings from the King's House at Amarna", *The Journal of Egyptian Archaeology* vol. 81 (1995), 110, 111.
- ⁴⁵ Flinders Petrie, *Tell El Amarna* (London, 1894), 15, pl. II.
- ⁴⁶ Prisse d'Avennes, *Atals of Egyptian Art* (Cairo: The American University in Cairo Press, 2000), 13.
- ⁴⁷ Prisse d'Avennes, *Atals of Egyptian Art* (Cairo: The American University in Cairo Press, 2000), 64, 65.
- ⁴⁸ Musée égyptien de Turin, *Civilization des Egyptiens La Vie Quotidienne* (Italie, 1988), 155.
- ⁴⁹ Floral Frieze, ca. 1184-1153 B.C.E. Faience, 11 7/16 × 2 13/16 in. (29.1 × 7.1 cm). Brooklyn Museum, Charles Edwin Wilbour Fund, 55.182a-i. <https://www.brooklynmuseum.org/opencollection/objects/3620>; accessed 2/5/2021; Cf: Eva Wilson, *Ancient Egyptian Designs* (British Museum Battens Book, 1987), 23, fig. 56; Florence Friedman, *Gifts of the Nile: Ancient Egyptian faïence* (London: Thames and Hudson, 1998), 86; for other examples from the tomb of *Nebamun* (no. 90), see : Prisse d'Avennes, *Atals of Egyptian Art* (Cairo: The American University in Cairo Press, 2000), 54 ; tombs of *Imnhotep* (no. 75) and *Iry* (no. 139) at Thebes, see: Eva Wilson, *Ancient Egyptian Designs* (British Museum Battens Book, 1987), fig. 57.
- ⁵⁰ The author got the permission from the Brooklyn Museum to use the image in the current study.
- ⁵¹ Marija Tomashevskaja, *Sacred Floral Garlands and Collars from the New Kingdom Period and Early Third Intermediate Period in Ancient Egypt*. 1550 BC–943 BC (Master Thesis, University of Leiden, 2019), 35, fig. 38; for more information on houses and its design in ancient Egypt, see: Garis Davies Norman, "The Town House in Ancient Egypt", *Metropolitan Museum Studies* vol. 1, no. 2 (1929), pp. 233-55.
- ⁵² Thomas Eric Peet, *The City of Akhenaten, part 1: Excavation of 1921 and 1922 at El – Amarnah*, EES (London: Egypt Exploration Society, 1923), 7.
- ⁵³ Marija Tomashevskaja, *Sacred Floral Garlands and Collars from the New Kingdom Period and Early Third Intermediate Period in Ancient Egypt*. 1550 BC–943 BC (Master Thesis, University of Leiden, 2019), 35, fig. 39.
- ⁵⁴ Thomas Garnet Henry, *Egyptian Painting and Drawing in the British Museum* (Harvard University Press, 1986), 37, 38, fig.39; height: 3.80 cm (frame), length: 50 cm (frame), width: 35.70 cm (frame).
- ⁵⁵ Nina Macpherson Davies, *Ancient Egyptian Paintings: Selected, Copied, and Described by Nina M. Davies; with the Editorial Assistance of Alan H. Gardiner*, vol. I: plates I-LII, (Chicago: University of Chicago Press, 1936), pl. XXIX; dimensions of original 136x195 cm; vol. III: descriptive text, 62; Norman Garis Davies, *The Tomb of Ken-amun at Thebes*, vol. II (New York: The Metropolitan Museum of Art, 1930), pl. IX A.
- ⁵⁶ Norman Garis Davies, *Seven Private Tombs at Kurnah* (London: Egypt Exploration Society, 1948), pl. XI; Cf: Bertha Porter Rosalind Moss, *Topographical Bibliography of Ancient Egyptian Hieroglyphic Texts, Reliefs and Paintings*, vol. I: The Theban Necropolis, part 1: Private Tombs, (Oxford, 1960), 47.
- ⁵⁷ Norman Garis Davies, *Seven Private Tombs at Kurnah* (London: Egypt Exploration Society, 1948), pl. XXVIII; the same decorative frieze is portrayed on the south and east walls in the inner room at the same tomb, *ibid*, pl. XXX.
- ⁵⁸ Porter and Moss, *Topographical Bibliography of Ancient Egyptian Hieroglyphic*, 408.
- ⁵⁹ Norman Garis Davies, *Seven Private Tombs at Kurnah* (London: Egypt Exploration Society, 1948), pl. XXXV.

⁶⁰ Bertha Porter Rosalind Moss, *Topographical Bibliography of Ancient Egyptian Hieroglyphic Texts, Reliefs and Paintings*, vol. I: The Theban Necropolis, part 1: Private Tombs, (Oxford, 1960), 249.

⁶¹ Christiane Desroches-Noblecourt, *Lorsque La Nature Parlait aux Égyptiens* (Éditions Philippe Rey, 2003), 38, fig.25.

⁶² Norman Garis Davies, *Seven Private Tombs at Kurnah* (London: Egypt Exploration Society, 1948), pl. XXXIII.

⁶³ Bertha Porter Rosalind Moss, *Topographical Bibliography of Ancient Egyptian Hieroglyphic Texts, Reliefs and Paintings*, vol. I: The Theban Necropolis, part 1: Private Tombs, (Oxford, 1960), 395.

⁶⁴ Norman Garis Davies, *The Rock Tombs of EL-Amarna*, Bart3 (London: Egypt exploration fund, 1905), 13.

⁶⁵ Mohsen Negmeldin, “Types of the Ceilings and Its Decorations at ancient Egyptian Architecture”, *Archi-Cultural Interactions through the Silk Road: 4th International Conference*, (Japan: Mukogawa Women’s Univ., Nishinomiya, July 16-18, 2016), 21.

⁶⁶ Peter Lacovara and Alexandra Winkels, “Malqata – The Painted Palace”, in *Tracing Technologies: The Production of Bronze Age Wall Paintings in the Eastern Mediterranean*, eds. Johannes Becker, Johannes Jungfleisch and Constance von Rügen (Leiden: Sidestone Press, 2018), 159, fig. 8.

⁶⁷ Prisse d’Avennes, *Atals of Egyptian Art* (Cairo: The American University in Cairo Press, 2000), 28, 31.

⁶⁸ Charles Kyrle Wilkinson, *Egyptian Wall Paintings: The Metropolitan Museum of Art’s Collection of Facsimiles* (New York: Metropolitan Museum of Art, 1983), 110 (30.4.3); for another example, from the tomb of Amenemhat Surer (T48), see: *ibid*, 124 (30.4.27).

⁶⁹ Nina Macpherson Davies, *Ancient Egyptian Paintings: Selected, Copied, and Described by Nina M. Davies; with the Editorial Assistance of Alan H. Gardiner*, vol. vol. II, pl. LXXXIII; dimensions of original is 57x51 cm; *ibid*, vol. III: descriptive text, 156, 157; Jean Capart and Marcelle Werbrouck, *Thèbes: la gloire d’un grand passé* (Bruxelles: Vromant, 1925), 180, fig.104.

⁷⁰ Nina Macpherson Davies, *Ancient Egyptian Paintings: Selected, Copied, and Described by Nina M. Davies; with the Editorial Assistance of Alan H. Gardiner*, vol. vol. II, pl. CIV; dimensions of original 84x64 cm; *ibid*, vol. III: descriptive text, 200; Capart and Werbrouck, *Thèbes*, fig. 105; Gustave Jéquier, *Décoration égyptienne: Plafonds et frises végétales du nouvel empire thébain (1400 à 1000 avant J.-C.)* (Librairie centrale d’art et d’architecture, 1911), pls. XXX, XL; the interlocking spirals of these patterns connect in various ways, forming spaces filled with colors and motifs such as the lotus flower as portrayed on the ceiling of tombs of Nebamun, Imiseba, Neferhotep, Neferronpet, and Pedamenopet from the New Kingdom; Prisse d’Avennes, *Atals of Egyptian Art* (Cairo: The American University in Cairo Press, 2000), 31-34.

⁷¹ Nadine Cherpion, and Corteggiani Jean-Pierre, *La tombe d’Inherkhâouy* (TT 359) à Deir el Medina, vol. I: texte (Le Caire: MIFAO 128, 2010), 38; vol. II: planches, 12, pls. 16, 17.

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