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THE REVISED VIEW OF ONE OF TUTANKHAMUN'S NECKLACES

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ABSTRACT

[AR]

أعادة رؤية في إحدى قلادات توت عنخ آمون

في صندوق على هيئة الخرطوش عُثر عليه في كنز مقبرة الملك توت عنخ آمون KV 62 بطيبة، تم العثور على أروع قلادة محلاة بشكل القمر وزهور اللوتس متناغمة مع براعمها، وهناك دلالات توضح أن الملك كان يرتديها أثناء حياته، هذا البحث سوف يقدم رؤية جديدة لهذه القلادة ورمزيتها الدينية، وسيكشف القوة السحرية لهذه القلادة.

[EN] In a cartouche-shaped box found in the treasury of king Tutankhamun's tomb KV 62 in Thebes, one of the most wonderful moon-shaped necklaces with lotus flowers matching their buds was discovered. Some signs show that the King wore this necklace throughout his lifetime. This research paper presents a revised view of this necklace and its religious symbolism and explores its magic power.

KEYWORDS: King Tutankhamun's necklace, Nefertem, Sun and moon, Lotus flower, Buds, Sky, Magic power, Amulet power, Magic numbers, Religious symbolism, Cryptographic writing.

I. INTRODUCTION

In November 1922, Howard Carter discovered the tomb of the young pharaoh Tutankhamun, KV 62, in the Valley of Kings in Thebes¹. The Treasury of the tomb contains over 5,000 cataloged objects, most of which are funerary and ritual in nature. Carter described these objects: «everywhere the glint of the gold». One of these treasured objects is this wonderfully decorative necklace JE 61897² under study.

I- THE REVISED VIEW OF THE TUTANKHAMUN'S NECKLACE JE 61897 AND ITS RELIGIOUS SYMBOLISM

This necklace is 40 cm long³ [FIGURE 1]. As for its central figure, H. James mentioned it «is the moon⁴, shown as disk and crescent in the night bark on its nocturnal journey,» and “the bark sits above a grove of lotus flowers and buds,” he continued. It has four lotuses⁵ and thirteenth buds⁶. The lotus flower *Nfr*⁷ represents the God Nefertem⁸ (*nfr-tm*)⁹, which means «complete beauty»¹⁰, «Amun Atum is good»¹¹, or it means «he who has newly appeared is perfect»¹². This word was written as *sššn* with the determinative of blooming flower. This primary symbol was the blue lotus blossom¹³ or lotus's buds to indicate □□□□¹⁴.

As for these buds in the necklace, I observed two kinds of buds; one is smaller than the other. The first one has only green leaves, while the taller buds indicate the blue lotus blossom. It has two leaves; one is green, and the other is dark blue. On their top are small light green leaves, all of which have yellow stems made of gold [FIGURE 2]. All dark blue leaves are made of lapis – lazuli,¹⁵ and the other ones with light blue are made of feldspar¹⁶.

¹ It was excavated by H. CARTER for Lord Carnarvon in 1922 . In KV62. JAMES 2001: 146, 166.

² In JE 61897, SR 1/3461: it was described as: «pectoral of Tutankhamun in the form of a gold boat and silver solar disc with counterpoise and chain». It is made of gold, resin, calcite / e.g. alabaster / travertine, lapis lazuli, feldspar, carnelian, electrum, and glass.

³ JE 61897. The Grand Egyptian Museum.

⁴ I disagree with T. G. H. JAMES; I think this figure is not moon and crescent, but it is as dazzling sun.

⁵ As for the sign of lotus flower, see HANNIG 1995: 1059, M9.

⁶ As for the sign of lotus' bud, see HANNIG 1995: 1059, M10; JAMES 2001: 210.

⁷ *Nfr*: is the flower of Nefertem. HANNIG 1995: 410.

⁸ In the Egyptian theology, this god was the son of Sekhmet and Ptah. This triad was adored in Memphis, sometimes his Mother is Bastet. He has pictures in different figures sometimes as a child or a man, he is connected with lotus. SCHLÖGL 1980: 379; LEITZ: 2002: 221.

⁹ In the pyramid texts, the god Nefertem was mentioned: ERMAN & Grapow (eds.): *Wb.* vol.2: 5,257.

¹⁰ SCHLÖGL 1982: 378.

¹¹ WEGNER 2001: 514.

¹² WEGNER 2001: 514

¹³ HANNIG 1995: 768.

¹⁴ HANNIG 1995: 422. In an aspect: «*pṛt m š3 ḥnꜥ nḥbt in mḥtjw.s*» (Heraus kommen aus der Marsch mit einer Loutusknospe durch ihre Marschleute), while «*nḥbt nt š3w*» Knospenden der Zweige). HANNIG 1995: 422, 1- 2

¹⁵ LANDMANN 2004: 135-136.

¹⁶ The colors of the feldspar are green, yellow, light blue, violet. JAMES 2001: 210; LANDMANN 2004: 77.

These flowers with the blossom and buds grow out of a longitudinal element representing the sign of Sky *pt*¹⁷. This shape could be a rare phon. *hr* (*j*), *hrw* inlaid with lapis-lazuli¹⁸. According to this necklace, the sky is the womb. It seems pregnant with lotus flowers and acts as an incubator for its seeds. Hence, the sky goddess Nut¹⁹ is the mother of Nefertem²⁰. It is the same goddess that gives birth to the sun every day²¹, as assured by a text of spell 42 in the Book of the Dead:

«Behold, I have told thee I am the blossom that came forth from the deep, and Nut is my mother»²².

I think Nefertem had a role with Nut when the ship of the sun crossed it daily²³. Nefertem, the lotus flower, represents the birth of the young sun god at the beginning of time²⁴. The lotus assured that Re= «the Sun» always had a new appearance, perfect as a dazzling sun disk²⁵, so both the central sun disk and the board of the solar bark were made of electrum²⁶ as a reflection of its rays [FIGURE 2].

T. G. James thinks that from the figure of the sky, «droplets of moisture hang down», as *Bdt*²⁷, which is inlaid with feldspar and lapis²⁸. In contrast, I think under the sky, there are the roots of the flowers represented in two colors: Green²⁹ and dark blue. The light green ones belong to the small buds with their leaves having the same color, while the dark blue roots belong to the four blooming flowers and the taller buds, which have dark blue leaves matching with light green leaves, and its top has small leaves colored light green.

On both sides, over the flowers and under the bark, there are two rectangular labels inscribed with the name of the king inside the cartouche, supported by two winged goddesses³⁰. G. H. James indicates them as *Uraei*³¹.

¹⁷ Sometimes, this sign was used as a determinative for the goddess Nut or as *hrt* (sky) but rarely as Phono- Det: *hrj*, *hrw*, HANNIG 1995: 1062, N1.

¹⁸ JAMES 2001: 210.

¹⁹ KURT 1981: 535-541.

²⁰ KURT thought that Nut might have a relationship with Nefertem, Harachte, Heqet, and Thot. KURT 1981: 537.

²¹ KURT 1981: 535-536.

²² ALLEN 1974: 49 spell. 42.

²³ KURT 1981: 537.

²⁴ JAMES 2001: 133.

²⁵ KOZLOFF & BRYAN 1992: 57, 72. FIG. 2 / a.

²⁶ Electrum is a mixture of gold and silver, JAMES 2001: 210.

²⁷ HANNIG 1995: 1062, N^o. 4. or: *idt* (dew). GARDINER 1979: 485. N^o.4.

²⁸ JAMES 2001: 210.

²⁹ This color looks similar to turquoise.

³⁰ The *Nbtj* name appeared from the 1st dynasty in a figure of snakes. VON BECKERATH 1984: 14-18, FIG.2.

³¹ JAMES 2001: 210.

However, I denote those two goddesses, the right one on each label as *W3dt*³², the goddess *Uraei* of the Lower Egyptian city *dp*, while the other goddess on the left is *Nḥbt*, the vulture- goddess of the Upper Egyptian city El-Kab. They both represented the Nebty name of Egyptian kings from the first dynasty³³.

Both goddesses *nṯrtj*³⁴ on each label stretched out their wings around the names of the king in cartouches to protect his names. They symbolized that the king united the two kingdoms and indicated that the king had a special relationship (association) with these two goddesses³⁵. Small incised figures between their two wings represent the sign *šnw* cartouche³⁶, denoting that the two goddesses stood, spread out their wings around the names of the king, and protected them, presenting him *šn* «Power over property», «benefits of life, fullness, completion»³⁷.

The lotus and buds show the stages of a plant's growth that go from a seed to complete flowering. They rose from the sky, indicating the agricultural environment of these lotus flowers. The sky, as a womb, carried out their roots which stretched through it. It means these flowers had stability, endurance, prosperity, and flourishing as a new life.

I argue that this part of the necklace could be read as follows:

Im pt prt sššnw nḥbwt
*hrj nfrw (rd) (h^c) twt -^cnḥ -Imn ḥk3-Iwnw-šm^cj*³⁸
*Nb -ḥprw -R^c*³⁹

«From the sky came out the lotus» flowers with their buds, over these lotus flowers (growing), (appeared) (Tutankhamun, the ruler of the south Thebes)⁴⁰, «*Nb-ḥprw-R^c*»⁴¹ (the lord forms of Re) as his throne name⁴².

Throughout the central figure of the necklace, the king assured that his throne name and added the epithet «he is the ruler of the south Thebes», which means he is derived away from El Amarna, and he ruled Egypt from Thebes, the main capital of Egypt before the reign of Akhenaton⁴³.

³² HANNIG 1995: 1197.

³³ Both goddesses are a reading of the group *nbtj* «The two ladies». GARDINER 1979: 73, 2.

³⁴ HANNIG 1995: 444.

³⁵ GARDINER 1979: 73, 2.

³⁶ GARDINER 1979: 522, V. 9.

³⁷ PETRIE 1914: 22, FIGS. 80-81.

³⁸ VON BECKERATH 1984: 87, E2.232

³⁹ HANNIG 1995: 1275.12.

⁴⁰ The throne name of the king was: «Lebendiges Abbild des Amun, Herrscher des Oberagyptischen Heliopolis (Theben/ Karnak)» Herren-der Gestalten-ein-Rec». SCHNEIDER 1994: 301,302.

⁴¹ VON BECKERATH 1984: 87, 232, T1.

⁴² This epithet was adapted to be consistently included in the cartouche with the altered *Nomen*. KRAUSS 1986: 812.

⁴³ As for «Tell el Amarna», it is located at Minia. KEMP 1986: 309-319.

II. THE CRYPTOGRAPHIC WRITING IN THE NECKLACE JE 61897

The central figure of this necklace is represented as a sun made of electrum over a bark made of gold⁴⁴, which I suggest that it is a kind of cryptographic writing⁴⁵. This writing is denoted by scholars as «secret writing»⁴⁶ or as enigmatic writing⁴⁷, which means *ilm al-ta'miya* [علم التعمية] in Arabic.⁴⁸

I report that when king Tutankhamun dressed this necklace around his neck, it gave the meaning *hprw* = «gestalt or» *erscheinungsform* «König»⁴⁹, or it gave the meaning of «*ir hprw m* = transform (himself into)⁵⁰ the figure of Nefertem to represent the birth of the young sun-god when the lotus sprang up from the high mound rising from Nun⁵¹. The bark is phon. *Nb* the King is: *hprw* the sun disk is: *R* as **incorporate the name of the king to assure his Identity as a sun god as (*Nb hprw R*)**.

As for the two goddesses on two labels, right and left, under the bark with their wings around the cartouches' names of the king, we can read the name of Amun *Imn* as cryptographic writing. On the right of each label, the sign «*I* is the uraeus» *Irt*⁵², the sign «*m*» in the shape of the cartouche is «*mnš*»⁵³, while the sign «*n* in the shape of the other goddess is» *nrt*⁵⁴. It means *Imn* in his name and protects him⁵⁵.

The pectoral is linked by four rows of beads; some are around, and others are barrel-shaped and made of gold, lapis-lazuli, felspar, glass, and a dark-colored resin. G. James added that «some of the gold spherical beads are soldered together to make spaces which hold the four rows together»⁵⁶. The main component of beads is open, and big lotus flowers descend from the back to be as weight [FIGURE 3].

On the right side of the counterpoise, there is a clasp held in position by a retractable pin⁵⁷.

⁴⁴ JAMES 2001: 210.

⁴⁵ SILVERMAN 1980: 234.

⁴⁶ <https://en.wikipedia.org/wiki/Cryptography>, Monday April, 26 2021; TSIOLAKIS & MÜLLER 2000.

⁴⁷ IVERSEN 1993: 36.

⁴⁸ MTWLI 2010:13-23.

⁴⁹ The word *hprw* has a different meaning. It is used for the appearance of gods or kings. HANNIG 1995: 595.

⁵⁰ FAULKNER 1964: 189.

⁵¹ See the figure of the head of the king as a child appeared from the lotus flower. It is made from wood with a thin layer of gesso-plaster with colors. JAMES 2001: 133.

⁵² FAULKNER 1964: 11.

⁵³ See other scarabs in the same figures at the British Mus. Hall, H.R., 1931: 86, N^o. 880; 87, N^o. 884 (BM. 16792). FAULKNER 1964: 110, see also other scarabs in the British Museum. N^o. 42609 dated to the 18th dynasty. METOLY 2010: 187, 11.

⁵⁴ FAULKNER 1964: 142.

⁵⁵ King Tutankhamun replaced the figures of Amun in Karnak again after it was desecrated during the Amara periods and erected a chapel by his name in Karnak, as well. KROUSS 1986: 813.

⁵⁶ JAMES 2001: 210.

⁵⁷ JAMES 2001: 210.

III. THE MAGIC NUMBERS AND THE AMULET POWERS OF THE NECKLACE JE 61897

The counterpoise of the necklace is a big lotus flower with nine leaves with different colors; three are dark blue as lapis– lazuli, four are light blue as felspar, and two have yellow color as gold, while its cup has a yellow color like gold. This lotus is flanked by two middle lotus buds; each has three leaves, and all are inlaid. One leaf has colored dark blue is of lapis – lazuli, and the other light blue is of felspar. On the tips of the buds, there are traces of white calcite. The cups of these two buds are inlaid with carnelian and have a rose color with small tuberous roots yellow from gold at the bases, of which two rosettes are inlaid with carnelian⁵⁸. All the flowers indicate the god Nefertem as an amulet⁵⁹ that is connected with the young King and protects him as a son⁶⁰. I observe that under the shape of the big lotus, there is a small figure like a green papyrus⁶¹. I think it has given the meaning that the lotus is fresh and green always as the young King Tutankhamun, who put the necklace around his neck in his daily life, is safe and «his limbs never be crushed»⁶², surrounding the big lotus flower by the two roses⁶³ [FIGURE 3].

Above the lotus flower and buds are nineteenth tassels of gold and glass beads. They are hung from a bar of gold with a yellow color. These tassels are joined in pairs, except one in the middle single. From the right, it is N^o. *elf*. From the left, it is N^o. 9⁶⁴. All tassels end with bell-shaped floral terminals in the shape of papyrus. The tassels are **nineteen**, like the total **roots** under the sky. These tassels, perhaps etymologically, represent the *psdtjw*, the nine gods «Ennead» in Heliopolis twice⁶⁵, and the big open lotus flower as **Nefertem** himself represents the number **twenty**. He is the lotus bud at the nose of Re, and he is one of the Sun Gods⁶⁶. All flowers and buds and this number **twenty** were considered by K. Sethe as a magic number⁶⁷ [FIGURES 2-3].

According to texts, there was contact between the king and the lotus, as in utterance 249 in the Pyramid Texts, the king is a flower in the sun-god's hand: «O you two fighter, tell the Noble one, whoever he may be, that I am this *sššš*- flower which springs up from the earth. My hand is cleansed by him who prepared my throne, and I am at the nose of great Power; ...I appear as **Nefertem**, as the lotus – bloom which is

⁵⁸ JAMES 2001: 210.

⁵⁹ The amulets of Nefertem had different shapes, as flower made of blue glaze, or glaze faded white during XXth dynasty, or the god standing alone, or standing on a lion, made from green glaze, blue glaze, and silver, during XXVIth Dynasty. PETRIE 1914: 38 (175), 50 (267 a, c).

⁶⁰ LEITZ, C. 2002: 222.

⁶¹ See the figure in the: JAMES 2001: 211.

⁶² This amulet was made of green felspar, beryl, serpentine, and sard. PETRIE 1941: 18, 21.

⁶³ JAMES 2001: 210.

⁶⁴ According to the ancient Egyptian texts the number «Seven and Nine or Nine and Ten» status Magic. SETHE 1916: 39.

⁶⁵ SETHE 1916: 20,38.

⁶⁶ SCHLÖGL 1982: 378. FAULKNER 1969: 60 [266], 95 [483].

⁶⁷ SETHE 1961: 40.

at the nose of *R*^c; he will issue from the horizon daily, and gods will be cleansed at the sight of him»⁶⁸. While in the Book of the Dead - Spell 42 reads:

«I am Re every day. I shall be grasped by my arms; I shall not be seized by my hands. Neither men nor gods nor the blessed nor the dead (nor any men) nor any patricians nor any common folk nor any sun – folk shall do any robbing of me...I was esteemed like **Khepri**. I am the lord of the crown of Upper Egypt ... My seat is on my throne ... Not a child has trodden the (path) of yesterday; (to me belongs) today, man by man. I am your protector for millions (of years). Whether ye exist (as) Sky-Folk or Earth-Folk, southern, northerners, easterners, or westerners, fear of me is in your bellies. ... Behold, I have told thee I am the blossom that came forth from the Deep, and Nut is my mother ... there is none who grasp me or shall grasp me...I am Horus presiding over millions ...⁶⁹».

⁶⁸ FAULKNER 1969: 60, 61 [249].

⁶⁹ ALLEN, T. G., 1974: 48, 49, spell. 42

IV. CONCLUSION

To sum up, I can conclude that this necklace had a lot of benefits for king Tutankhamun. When he dressed it throughout his daily life, the king appeared as the young sun god, **Nefertem**, as a lotus flower. The two goddesses protected his throne names, and he obtained its magical amulet power to protect himself against evil, conspirators, or perhaps the priests⁷⁰. He announced before his court and people that he was a man, not more a child (spell 42). On the other hand, the number **twenty** flowers and buds in this necklace were considered a magic number.

It had **cryptographic writing** that referred to the king's name *Nb hprw* Ra and the name of the god *Imn* Amun written by the two goddess on the labels, meaning that the god Amun supported him.

I think that the king considered himself Nefertum, the son of Sekhmet. He had the power to defeat his enemies and to give the real impression of the god Nefertum. There were some beads made from a dark-colored resin⁷⁰ to give the scent, sweat, and sweetness of the god⁷¹.

V. DEDICATION

To the soul of My Prof. Dr./ ALI RADWAN, God's mercy upon him, who taught me how to be distinguished in my research, to which I always give my best effort.

⁷⁰BONNET 1931: 22-24. BLACKMAN 1912: 71-72, Urk 1958: Vol.4, 874

BIBLIOGRAPHY

- ALLEN, T. G.: *The Book of the Dead or Going forth by Day*, Chicago (The University of Chicago Press) 1974.
- BLACKMAN, A. M.: «The Significance of Incense and Libations», *ZÄS* 50, 1912, 69-75.
- BONNET, H.: «Die Bedeutung der Räucherungen in ägyptischen Kult», *ZÄS* 67, 1931, 20-27.
- ERMAN & GRAPOW: (eds.): *Wörterbuch der ägyptischen Sprache I-V*, Leipzig (J. Hinrichs) 1926-1931 = (Wb. vol.2.)
- FAULKNER, R.O.: *The Ancient Egyptian Pyramid Texts*, Oxford (The Clarendon Press) 1969.
- _____, R.O.: *A Concise Dictionary of Middle Egyptian*, Oxford (The Griffith Institute at the University Press by Vivian Ridler) 1964.
- GARDINER, A.: *Egyptian Grammar*, Oxford (Oxford University Press) 1979.
- HALL, H.R.: *Catalogue of Egyptian scarabs, etc., in the British Museum*, vol. I, *Royal Scarab*, London (British Museum) 1931.
- HANNIG, R.: *Großes Handwörterbuch*, Mainz (Verlag Phillip Von Zabern) 1995.
- HOUSER-WEGNER, J.: «Nefertum», In: Redford, D. B., *the Oxford Encyclopedia of Ancient Egypt*, vol.2, Oxford (Oxford University Press) 2001, 514-516.
- IVERSEN, E.: *The Myth of Egyptian and its Hieroglyphics in European Tradition*, (Princeton) 1993.
- JAMES, T. G. H.: «Das Grab des Tutanchamun», In Weeks, K. R. & Luca, A. De., *Im Tal der Könige, Von Grabkunst und Totenkult der Ägyptischen Herrscher*, Münschen (GEO Frederking & Thaler) 2001.
- JAMES, T.G. H., *Tutankhamun, the Eternal Splendor of the Boy Pharaoh*, Milan (AUC Press) 2000.
- KEMP, B.J., «Tell el - Amarna» *LÄ* 6, Wiesbaden (Otto Harrassowitz) 1986, 309-319 .
- KOZLOFF, A.P., & Bryan, B.M.: *Egypt's Dazzling Sun –Amenhotep III and his World*, Cleveland (The Cleveland Museum of Art) 1992.
- KRAUSS, M. EATONL: «Tutanchamun», *LÄ* 6, Wiesbaden (Otto Harrassowitz), 1986, 812-818.
- KURT, D.: «Nut», *LÄ* 6, Wiesbaden (Otto Harrassowitz) 1981, 535-541.
- LANDMANN, A.: *Edelsteine und Mineralien*, München (Sammüller Kreativ GmbH) 2004.
- LEITZ, C., «Nfr-tm» *Lexikon der ägyptischen Götter und Götterbezeichnungen, Band IV nbt-h», OLA 113, Leuven–Paris–Dudley (Uitgeverij Peeters en Department Oosterse Studies, MA) 2002, 221-223.*
- MTWLĪ, NAĞWA MUḤAMMAD: «al-Kitābāt al-mu‘māa fī al-ḥādāra al-miṣrīya al-qadīma», *Silsilat Dirāsāt fī al-ḥṭwṭ* 10, Bibliotheca Alexandrina, 2010, 13-23.
- PETRIE, W.M.F: *Amulets*, London (Constable & co. ltd.) 1914.
- SCHLÖGL, H.: «Nefertem», *LÄ* 6, Wiesbaden (Otto Harrassowitz) 1980, 378-380.
- SCHNEIDER, T.: *Lexikon der Pharaonen*, Zürich (Artemis Verlags AG), 1994.
- SETHE, K.: *Von Zahlen und Zahlworten bei den Alten ägyptern und was für Andere Völker und Sprachen Daraus zu Lernen ist*, Straßburg (Karl J Trübner) 1916.
- SETHE . K., & HELCK , W.: *Urkunden der 18 Dynastie IV*, Leipzig (J.C. Hinrichs) 1906-09.
- SILVERMAN, D.P., «Cryptographic Writing in the tomb of Tutankhamun», *SAK* 8, 1980, 233-236.
- TSIOLAKIS A. & MÜLLER M.: *Cryptography*, Berlin, 2000.
- Von Beckerath, J., *Handbuch der ägyptischen Königsnamen*, Berlin 1984 .
- (Deutscher Kunstverlag GmbH Münschen Berlin , Druck: Hain –Druck, Meissenheim)

WEBSITES:

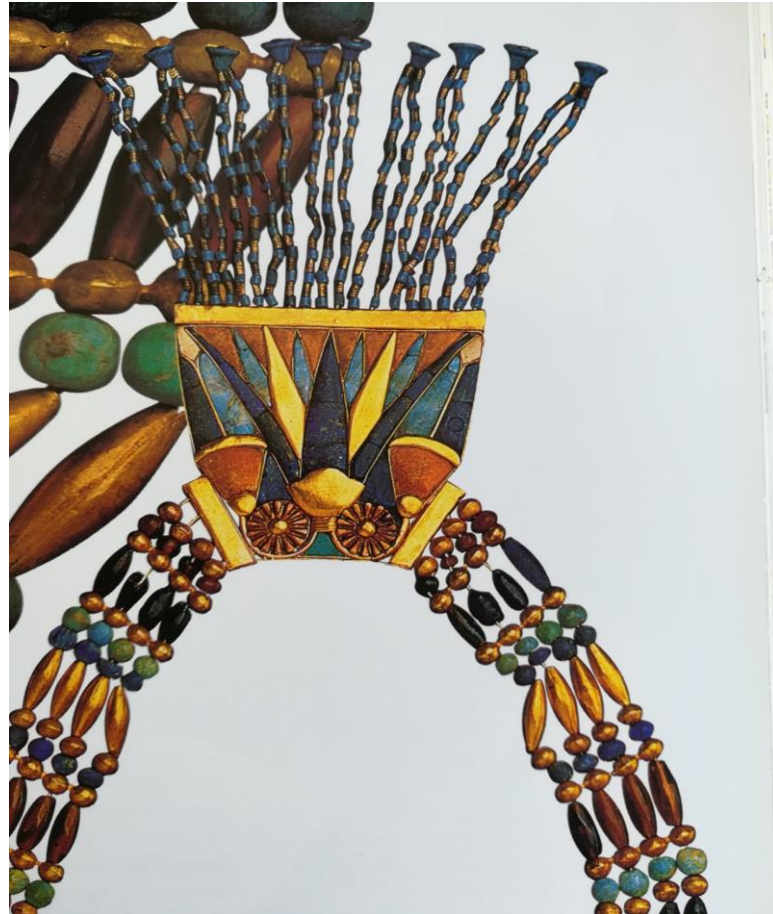
- <http://user.cs.tu-berlin.de/-marinam/crypt1>, April, 26 2021.
- TSIOLAKIS & MÜLLER 2000: *Cryptography* <https://en.wikipedia.org/wiki/Cryptography> Monday April 26, 2021.



[FIGURE 1]: Tutankhamun's necklace jd'E 61897, The Grand Egyptian Museum.



[FIGURE 2]: The center part of Tutankhamun's necklace, jd'E 61897, The Grand Egyptian Museum, JAMES 2000: 211



[FIGURE 3]: The big lotus flowers as the back weight of the necklace,
JAMES 2000: 211