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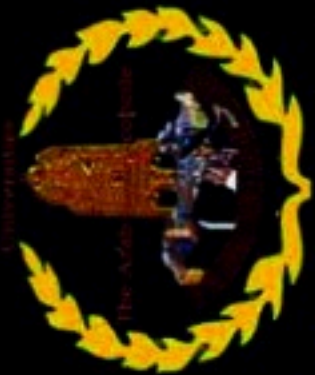
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ANCIENT ARCHAEOLOGY & EGYPTOLOGY

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THE FUNERARY STELA OF PTAHMES FROM THE RAMESSIDE PERIOD IN HELIOPOLIS

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THE FUNERARY STELA OF PTAHMES FROM THE RAMESSIDE PERIOD IN HELIOPOLIS

By

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ABSTRACT

This paper is concerned with the study and publication of a funerary stela of a man named Ptahmes, which was discovered in Heliopolis, and specifically in the eastern area of Ain Shams. It is currently preserved in the magazine of 'Arab al-Hisn at Matariya under registration N°. 235. It is made of limestone without any traces of color. Despite being in a good condition, some parts of the upper half of the pyramidion and the lower right corner of the stela are missing, and there are some abrasions in the upper register. The stela exhibits average quality of workmanship. It consists of two registers of incised engravings separated by a double horizontal line. The upper register contains a scene of Osiris – the only god in this stela – together with the stela's owner, Ptahmes, to whom the stela is dedicated. The second register is occupied by a group of individuals, most of whom are members of Ptahmes' family: Ptahmes himself, his mother *iry-r*, his father *p3-kd*, and a woman in a mourning position whose identity has not yet been identified, but who dedicated the stela itself. This article discusses the stylistic features, hieroglyphic texts, and the religious aspects of the pyramidion which tops the funerary stela, and the symbols represented on it. The analysis of the scenes and texts proves with no doubt that this stela can be dated to the New Kingdom, and more precisely to the Ramesside Period.

KEYWORDS: Ptahmes, Osiris, Pyramidion , Anubis, Ramesside Period, funerary stela, Heliopolis.

I. INTRODUCTION

This funerary stela was discovered by the Egyptian inspector Essam 'El Banna during his excavation in the eastern area of Ain Shams in 1976, which was considered part of the ancient cemetery of Heliopolis named *ḏdt ʿ3t nt iwnw*.

II. DESCRIPTION

The stela measures 43.5cm in height, 27cm in width, and 9.2cm in thickness. It is a rectangular funerary stela with a round top surmounted by a pyramidion.

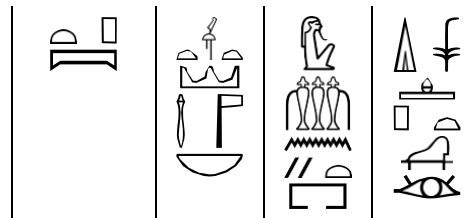
Pyramidion

The pyramidion is engraved with two crouching figures of Anubis, god of the cemetery¹.

The Upper Register

The god Osiris is represented at the left end of this register, beardless and seated on a cubic low-back chair² on a rectangular base. He is depicted wearing the *3tf* crown and a mummy shroud, with his arms crossed over his chest and holding the *nḥḥ3* scepter together with part of the shaft of another short item of insignia. According to similar scenes of Osiris, this should be the *ḥk3* scepter, a likelihood that is reinforced by similar stelae for Osiris where he is usually depicted holding both the *nḥḥ3* and the *ḥk3*, which has a short shaft.³

Four hieroglyphic columns occupy the space in front of Osiris. They are read as:



ḥtp di nsw (n) Wsir ḥnty imntt nir ʿ3 nb pt

«An offering presented by the king (to) Osiris, foremost of the west, the great god, the lord of heaven».

At the far right, facing Osiris, Ptahmes stands wearing a long plain kilt, extending from his waist to below the knee, and tied with a knot around his waist. With both hands, he holds the *ḥs* jar, of which nothing is left except its rim and the holy water poured on the offerings atop a wide-based offering table that stands between Osiris and Ptahmes. Similar scenes of the jar being held by both hands are found on the stela of Aahetep JE 33238(SR14082) both hands are found on the stela of Aahetep both

¹ BAKRY 1962: 9.

² This chair was widely used by gods and individuals in scenes from the Old Kingdom to the end of the pharaonic period, see: KUHLMANN 1977: 57-60.

³ Such as the Ramesside Stela of ptH-nxt currently preserved in the British Museum N°. 288, and the Ramesside stela N°. 1327 stored in the Giza main magazine, see: BIERBRIER 1993: 19, PL. 59 288; 'EL-SAADY 1995: 101, 103, FIG. 1, N°. 1.

hands are found on the stela of Aahetep JE 33238(SR14082) in the Egyptian Museum in Cairo dating back to the 18th Dynasty,⁴ and stela N°. 580, which is stored at Zagreb Museum in Yugoslavia from the Late Period,⁵ as well as on the wall of the Tomb of Sennefer (TT96) from the Eighteenth Dynasty.⁶

Three hieroglyphic columns are engraved in front of and above Ptahmes' head. They are read as:



di.f t hnkt mw k3 [w] 3pd [w] n k3 n Wsir Pth-ms

«May he grant bread, beer, water, oxen, and birds to the spirit of Osiris Ptahmes»

The Lower Register

At the far left side of the lower register, Ptahmes' mother is sitting on a chair embracing her husband,⁷ in such a way that her right palm touches his right elbow, which is placed over his right thigh. Her left palm rests on his left shoulder, as a symbol of the intimacy of family relations between husband and wife in ancient Egypt. In his left hand, he holds a blooming lotus flower near his nose to inhale its fragrance, since it is regarded as a symbol of resurrection.⁸ The woman wears a long tight garment, and a regular mass-shaped wig⁹ covering her shoulders and crowned by a perfume cone, while the husband is depicted wearing a long kilt, with shaved head and perfume cone. In front of the father and mother, the son is represented sitting in exactly the same position and the same size as his father.

⁴ ABD AL AL 2008: 50f, FIG. 3.

⁵ SALEH 1970: 38, N°. 20.

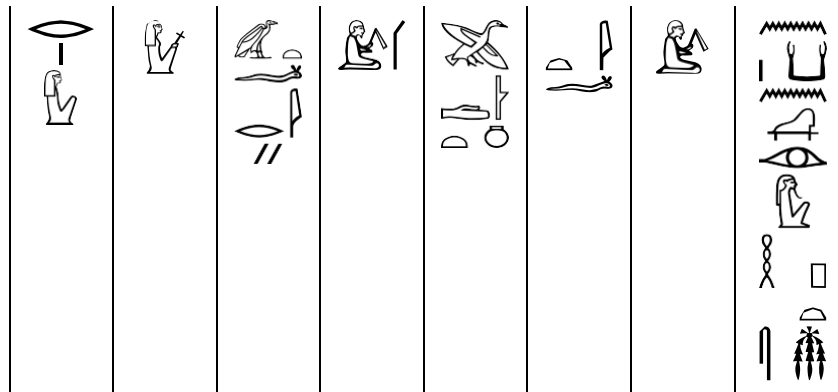
⁶ TEETER 2009: 31, FIG.26.

⁷ For more information about the embracing scene, see: LACAU 1909: PL. XIV CGC 34.23, PL. XXIX CGC 34.49, PL. XXXII CGC 34.54; MALAISE 1977: 183-198; METAWI 2008: 145; ABD AL AL 2008: FIGS. 2, 3.

⁸ BRUNNER-TRAUT 1980: 1092; HARTWIG 2004: 89.

⁹ ROBINS 1999: 64.

Eight hieroglyphic columns are engraved above Ptahmes as well as his mother and father. They are read as:

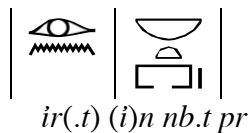


n k3 n Wsir Pth-ms it.(f) p3-ḳd mwt.f iry-r

«For the spirit of Osiris Ptahmes, his father PA- qed, his mother Iry-r»

At the right end of this register, a woman stands wearing a long tight topless garment and a wig tied up by a ribbon. In her right hand, she holds a jar, out of which she pours the holy water on the offerings accumulated upon the offering table located in front of Ptahmes and his parents, whereas she raises her left hand above her head in a mourning position.

In front of her head are two columns of hieroglyphs. They read as:



«Made by the lady of the house»

Her name appears in the space separating her from the offering table, and reads as follows:



III. COMMENTARY

Pyramidion

Funerary stelae surmounted by a pyramidion were common in the Ramesside period¹⁰. It is to be noted that Osiris is the main and almost the sole deity

¹⁰ BAKRY 1962: 9f, 11, 14, PLS. I, II; RADWAN 1987: 223-228, PLS. I- VI; MOURSI 1988: 59-61, FIGS.1- 2.

that is represented in this kind of stelae, including that studied here.¹¹ The ancient Egyptian took several measures to achieve resurrection in the other world, assimilating his destiny with that of the shining sun. This was usually attained through the representation of the pyramidion on top of stelae as a solar symbol (*bnbn*),¹² and by depicting Osiris himself, who is regarded as the sun of the other world.¹³ This is in addition to some of the symbols represented on the pyramidion, which are aimed at helping with resurrection, such as the seated jackal to guard the stela and its owner. The jackal appeared as a decorative element on top of funerary stelae from the 12th dynasty.¹⁴ Its presence guarantees the arrival of sunlight, since it pulls the sun boat through the other world, in Osiris' realm.¹⁵ Some stelae have a pyramidion on their rounded top, such as the stela of *Ky-nfr*, which is currently preserved in the Pushkin Museum in Moscow (N°. 79) and dates back to the 19th dynasty.¹⁶ Another example is the stela of *p(3)-n-nbw*, which is currently in the British Museum (N°. 372) from the same period,¹⁷ and the stela preserved in the Giza main magazine (N°. 1330) from the Ramesside period.¹⁸ There are other stelae as well with the representation of the jackal on the pyramidion, such as stela N°. 593 in Zagreb Museum in Yugoslavia dating back to the Ramesside period¹⁹, the stela of Amun chantress *n-m-mr* which is now preserved at the Tel Basta magazine (N°. 399) and belongs to the same era,²⁰ and the stela of *p3-sr* currently preserved in the magazine of Mattaria (N°. 3644) and dating to the 19th dynasty.²¹

Pouring Holy Water on the Offerings

The purpose of pouring holy water on the offerings, which is known as the *stj* ritual²², is not limited to purification only, but enabled the renewal and resurrection cycle for these offerings²³ to ensure the granting of life and luxury to the deceased and gods in the other world.²⁴ The scene of pouring holy water on offerings is represented on a stela dating back to the New Kingdom, which was discovered in Tell Basta and is currently preserved in the magazine of Tell al- Yahudia (B 687).²⁵ Another similar stela, which was found in Heliopolis, is currently in Giza magazine and dates to the 18th

¹¹ RADWAN 1987: 223.

¹² RADWAN 1984: 823.

¹³ cALI 2009: 66.

¹⁴HÖLZL 1992: 285, 288f; HÖLZL 2001: 323.

¹⁵ HERMANN 1940: 59; WESTENDORF 1966: 76f, Abb. 65; cATALLAH 2007: 97, note. 4.

¹⁶HODJASH & BERLEV 1982, 141, N°. 79.

¹⁷ JAMES 1970: 51, Pl. XLI.

¹⁸ 'EL-SAADY 1995: 101, 103, FIG. 2, N°. 2.

¹⁹ SALEH 1970: 35, N°. 17.

²⁰RADWAN 1987: 224, Pl. II.

²¹ cALI 2009: 65, pl. I, FIG. I.

²² ALTENMÜLLER- KESTING 1968: 9f.

²³RADWAN 2010: 109; BORGHOUTS 1980: 1014.

²⁴ SILVERMAN & BROVARSKI 1997: 288.

²⁵ cALI 2015: 5f, FIG. 1.

dynasty,²⁶ in addition to the 19th dynasty stela of *R^c-ms* in the British Museum (N^o.139).²⁷

The Kilt of Ptahmes

The style of the kilt that Ptahmes wears was widely used in the New Kingdom, especially in the Ramesside Period. Sometimes, these kilts are depicted with pleats, while at other times, they are represented plain, as in stelae N^{os}. 549, 772 and 1725 in the British Museum²⁸, as well as stelae N^{os}. S.68, S. 72, 76 and 112 in Leiden Museum.²⁹

Individuals' Chair Model

The type of chair seen on the stela was very common in scenes of the New Kingdom,³⁰ as is clearly displayed on the walls of the Rekhmire tomb (TT 100) which dates to the 18th dynasty,³¹ and the Amenhotep Asisi tomb (TT 75) of the reign of Thutmose IV,³² as well as on the New Kingdom stela CGC 34185 in the Cairo Egyptian Museum³³.

Inhaling the Fragrance of Lotus Flower

The motif of smelling the lotus flower was frequently depicted in private stelae of the New Kingdom.³⁴ This scene first appeared on stelae in the Middle Kingdom³⁵, as seen in a stela of the late Middle Kingdom discovered in Abydos and now in the National Museum of Antiquities in Athens (L132).³⁶ This scene is also displayed on the stela of *Ddw-rbk* which is in the Cairo Egyptian Museum (TN 30.10.17.5) from the same period,³⁷ and the stela of *Pth-m-wi3* in the British Museum (N^o. 167), dating to the 19th dynasty.³⁸ The New Kingdom stela CGC 34059 in the Cairo Egyptian Museum³⁹ gives a parallel to men being shown inhaling the lotus flower, as is the case in the stela of the current study.

²⁶ 'EL-BANNA 1990: 175f.

²⁷ JAMES 1970: 24, PL. XX.

²⁸ BIERBRIER 1993: 20, 24, 27, PL. 63 N^o. 549, PL. 83 N^o. 1725, PL. 101, N^o772.

²⁹ BOESER, 1913: 4, 13, PL. IV, N^o.13, PL. XXVI N^o49.

³⁰ DEMARÉE 1983, PL. I; JAMES 1970: 29, PL. XXV N^o.167.

³¹ DAVIES 1973: PL. LI.

³² DAVIES & DAVIES 1923, PL. 5.

³³ LACAU 1909: PL. LXIX.

³⁴ LACAU 1909: PL. XLV CGC 34094, PL. LI CGC 34105, PL. LX CGC 34148; DEMARÉE 1983: PL. I, PL. II ca

1/4, ca 1/6, PL. I. III ca 1/2, ca 2/5, PL. IV ca 1/2, ca 1/3, ca 1/5, PL. V ca 2/5, ca 1/2, ca 3/5, PL. VI ca 1/2, ca 1/3, pl.VII ca 1/2, ca 1/3.

³⁵ PFLÜGER 1947: 130, N^o. 5-6.

³⁶ STEFANOVIC 2010: 211, 213, FIG. 3.

³⁷ SELIM 2001: 328, FIG. 2.

³⁸ JAMES 1970: 29, PL. XXV.

³⁹ LACAU 1909: PL. XXXV.

The Mourners

The scene of the mourners is less commonly represented in funerary stelae, despite the fact that mourners (*dryt*) are usually depicted in the scenes of funerals on the walls of tombs from the time of the Old Kingdom onwards.⁴⁰ The topless garment of the mourner represented on the current stela is one of the characteristic features of mourners' costumes in the New Kingdom.⁴¹ Similar scenes of mourners are found on such stelae as that of *Dhwty*, which was discovered in Saqqara and is now in the National Museum of Antiquities in Leiden (V 51). It dates to the late 18th dynasty or the early 19th dynasty.⁴² The 19th dynasty stela of *Nfr-ꜥbw* and *Nfr-rnpt*, which is preserved in the British Museum (N^o. 305) is another instance.⁴³ It is worth noting that the mourning scene was not confined to women only; men were also sometimes represented displaying grief by putting one hand over the head, as is the case with the stela of *H3r* in the British Museum (N^o. 549), of the 19th or 20th dynasties.⁴⁴

Discussion

There are several points to note regarding the stela under consideration. First, it exhibits average quality of workmanship, which indicates that the owner belongs to the lower class in society. Second, the individuals are represented barefoot. Third, the stela is devoid of sons despite the fact that the ancient Egyptians were obsessed with the representation of their offspring. Such obsession is still present until now, which makes it possible either that Ptahmes was single, widowed, or barren; or that he died a short time after he married and could not have children. Fourth, there is no mention in the stela of professional state titles, which proves that the individuals represented belong to the lower class. Fifth, although the identity of both the father and mother of Ptahmes is recognized through the hieroglyphic writing *mwt.f it.(f)*, the woman in the mourning position, who dedicated the stela to Ptahmes, has not been identified. The same holds true for the 19th dynasty stela of *p3-Rꜥ* which is currently in the Pushkin Museum in Moscow (N^o. 82), where the phrase «*ir n nbt pr h3y*» «made by the lady of the house Hay» appears without the identification of the dedicator of the stela⁴⁵. Finally, the individuals in the stela are depicted as elongated and thin, which is one of the characteristics of the Ramesside period in general, and the reign of Ramses II in particular.⁴⁶ This is obviously represented in the stelae of the British Museum, for example (N^{os}. 309, 321, 549, 796, 1184)⁴⁷.

⁴⁰ SIMPSON 1976: 22, PLS. XVIII, XIX; DAVIES & GARDINER 1920: 19f; DZIOBEK 1992: 80f, PL. 25; ASSEM 2012: 18.

⁴¹ GREEN 2001: 277.

⁴² cAFFARA 2010: 147, 153, FIG. 1.


⁴³ JAMES 1970: 36, PL. XXXII, N^o. 305.

⁴⁴ BIERBRIER 1993: 20, pl. 63, N^o. 549.


⁴⁵ HODJASH & BERLEV 1982: 141, N^o. 82.

⁴⁶ RUSSMANN 2001: 182.

⁴⁷ BIERBRIER 1993: 19, PL.61, N^o. 309, 20, PL.63, N^o. 549, 22, PL.71, N^o. 321, 22, PL. 73, N^o. 796, 24, PL. 85, N^o. 1184.

- *htp-di-nsw*: The formula *htp-di-nsw* was written with the following order of signs in this form  in the Second Intermediate Period,⁴⁸ and it was commonly written as such also in the New Kingdom,⁴⁹ especially in the 19th Dynasty.⁵⁰ This is clearly depicted on the New Kingdom stela CGC 34.85 in the Cairo Egyptian Museum,⁵¹ as well as the base of the statue of Pached that is currently in Louvre Museum (E 12682) from the same period⁵². Another case in point is Stela N°. 1363 discovered in Heliopolis which is now preserved in the Giza main magazine, dating back to the Ramesside Period.⁵³

The Writing of the Name of Osiris:

It was not until the reign of Senusret III in the late 12th dynasty that the portable seat ⁵⁴ was part of the name of Osiris in the offering formula *htp-di-nsw*.⁵⁵ In the Middle Kingdom, the name was written in such a way that the portable seat was frequently followed by the eye sign, whereas in the New Kingdom it was sometimes written by the eye sign followed by the portable seat⁵⁶. The way of writing the name of Osiris with the portable seat followed by the eye sign can be found on other similar stelae, such as stela CGC 34.24, in the Cairo Egyptian Museum, belonging to the New Kingdom,⁵⁷ and stela N°. 31663 in the Field Museum of Natural History in Chicago from the Ramesside Period.⁵⁸

It is worth mentioning that inscribing the eye sign with eyelashes, as is shown in the name of Osiris in this stela, started from the 18th dynasty.⁵⁹ Archaeological sources with this features include the 18th dynasty statue of Khaemwese and Tamwadjsi in the Museum of Khartoum (N°. 0956);⁶⁰ the 19th dynasty stela of Neber⁶¹, currently in the Berlin Museum (N°. 20377); the stela of *pn-bwy* in the British Museum (N°. 1466), which is dated back to the same era⁶²; the stela of *P3-iry* which is currently in Pushkin Museum in Moscow (N°.86) and belongs again to the 19th dynasty⁶³; and the stela of *kn-hr-hpš* which is in the British Museum (N°. 278) and dates to the 20th dynasty⁶⁴.

⁴⁸ SMITHER 1939: 37.

⁴⁹ BOTHMER 2004: 168f; HALLMANN 2015: 144.

⁵⁰ BARTA 1968: 139.

⁵¹ LACAU 1909: Pl. XLII.

⁵² VALBELLE 1975: 132, N°. 6, FIG. 5.

⁵³ MOURSI 1988: 59, 61, FIG. 2.

⁵⁴ GARDINER 1950: 500, sign-list Q 2.

⁵⁵ SELIM 2003: 255; ABDALAAL 2006: 4, FIG. I.; MARÉE 2010: 253; ILIN-TOMICH 2011: 21.

⁵⁶ FISCHER 1957: Pl. XXXII; ERMAN 1967: 94; RADWAN 1987: 223f, Pl. I.

⁵⁷ LACAU 1909: Pl. XIII.

⁵⁸ ALLEN 1936: 34.

⁵⁹ LICHTHEIM 1989: 209.

⁶⁰ MACADAM 1949: Pl. 4, N°. 0956, text 2 in line 9.


⁶¹ ROEDER 1924: 158.



⁶² BIERBRIER 1982: 31, Pl. 73, N°. 1466.


⁶³ HODJASH & BERLEV 1982: 145, N°. 86.

- *hnty-imntt*: This is one of the titles associated with Osiris in the offering formula, referring to him as the funerary god of protection⁶⁵. It was first given to Osiris in the Old Kingdom⁶⁶, as mentioned in spell 2020 and 2021 in the Pyramid Texts⁶⁷. In the Old



Kingdom, the sign was written with four water pots, whereas it was written with three water pots from the Middle Kingdom onwards and represented as ⁶⁸. The

sign  developed from the sign , which was written on the wall of the Mastaba of Khentaka at Saqqara in the 6th dynasty⁶⁹. With regard to the determinative of this title

, it started to appear less until it disappeared in the late Middle Kingdom⁷⁰. It is worth noting that the sign *pr* mentioned as a determinative in the word *hnty* in the title *hnty-imntt* associated with Osiris on the current stela appears in the same title on stela S.71, N^o. 108 in the Leiden Museum, which is dated to the 19th dynasty⁷¹.

-*nir-ꜥ3*: The title *nir-ꜥ3* was associated with Osiris⁷² since the Old Kingdom, although it was rare at this time⁷³. Osiris is referred to by this title in the Pyramid Texts in spell 200b⁷⁴. However, since the 12th dynasty, and especially the reign of Senusret I onwards, this title was more commonly associated with Osiris and used more widely than before⁷⁵.

-*nb-pt*: This title „the lord of heaven” dates back to the Old Kingdom, as Leitz has noted, and it continued to appear in all subsequent periods, from the Middle Kingdom to the Greek-Roman Period.⁷⁶ It was given to a number of ancient Egyptian gods, including Osiris, who was associated with this title since the time of the Old Kingdom, as is indicated in texts in the Tomb of Mahw in Saqqara, which dates to the 6th dynasty⁷⁷.

- *di.f*: the sentence «*di.f*» (He may grant) was first used in the offering formula in the 12th dynasty, and is an important criterion of dating since it never appeared in

⁶⁴ BIERBRIER 1982: 37, Pl. 86, N^o. 278.

⁶⁵ DERCHAIN-URTEL 1997: 52; WILKINSON 2003: 119; HART 2005: 116.

⁶⁶ cABD `EL-RAHIEM 2003: 5.

⁶⁷ FAULKNER 1969: 291.

⁶⁸ GARDINER 1950: 529, Sign-List w 17, w 18; BROVARSKI 1973: 459; SHALABY 2016: 30.

⁶⁹ FISCHER 1996: 30.

⁷⁰ BENNETT 1941: 78; SELIM 2001: 262.

⁷¹ BOESER, 1913: 10, Pl. XVII, N^o. 34.

⁷² DERCHAIN-URTEL 1997: 52.

⁷³ SAIED 2002: 1058, N^o. 25.

⁷⁴ FAULKNER 1969: 288.

⁷⁵ BENNETT 1941: 79; DUQUESNE 2005: 168.

⁷⁶ LEITZ 2002: 624f.

⁷⁷ ALTENMÜLLER 1998: 64, N^o. 27.

periods prior to this⁷⁸. The reason for the addition of this sentence may be to clarify the belief that the offerings were given by the king to god, who then in turn gives them to the deceased⁷⁹. It is worth mentioning that the sentence «*di.f*» mentioned in this stela is not followed by *pṛt-hrw*, which literally means the voice goes forth; i.e. invocation⁸⁰, and this is something which is rare. The writing of *di.f* without *pṛt-hrw* does occur, though, in similar stelae, such as N°. 585 in the Zagreb Museum in Yugoslavia of the Middle Kingdom⁸¹, and stela CGC 34.81 in the Cairo Egyptian Museum from the New Kingdom⁸².

- *i hnkt k3[w]*: The lists of offerings comprise, as expected, both bread, which has a symbolic significance associated with the continuity of life in the other world⁸³, and beer, which started to appear in the lists of offerings on stelae from the 2nd dynasty⁸⁴. In addition, the presence of the head of the ox in these lists has a symbolic significance associated with eradication of evil through the journey of the deceased in the other world, since the ox head represents the cutting of the head of Set and his followers in his struggle with Osiris⁸⁵.

- *n k3 n*: The phrase *n k3 n im3hy* (for the spirit of the revered ...) was first written before the title and the name of the deceased in the offering formula *hṛp-di-nsw* on stelae dating back to the early 12th dynasty⁸⁶. However, Hassan Selim argues that this phrase was found on some stelae in the reign of Intef II or Mentuhotep II in the 11th dynasty⁸⁷. It is worth mentioning that the title *im3hy qr im3hw* started to disappear after *nk3 n* in the reign of Senusret I⁸⁸ before totally disappearing in the late 12th dynasty from the reign of Senusret III onward⁸⁹. The disappearance of this title is attributed to change in religious belief, where the deceased was no longer given the worldly title of revered, but became a spirit in reference to his destiny in the other world⁹⁰. Other stelae which resemble this stela in terms of how the phrase *n k3 n* is written without the title

«revered» include that of *Nb(=j)-pw-zj-n(.j)-wsr.t* in the British Museum (N°. 101) dating back to the reign of Senusret III⁹¹, and the New Kingdom stela CGC 34045, which was discovered in Thebes and is now in the Cairo Egyptian Museum⁹².

⁷⁸ OBSOMER 1993: 169; STEFANOVIĆ 2009A: 32; SELIM 2001: 325.

⁷⁹ LEPROHON 1990: 163; METAWI 2008: 148, note 39.

⁸⁰ GARDINER 1950: 172.

⁸¹ SALEH 1970: 13 N°. 2.

⁸² LACAU 1909: PL. XLI.

⁸³ SAMUAL 2001: 196-198.

⁸⁴ SELIM 2000: 252.

⁸⁵ cABD AL-cAL 2006: 5.

⁸⁶ BENNETT 1941: 79; 'EL-GABRY 2015: 271.

⁸⁷ SELIM 2001: 265.

⁸⁸ FRANKE 2003: 54; cABD 'EL- RAZIQ 2013: 279.

⁸⁹ BENNETT 1958: 121; JOSEPHSON 1999: 58f; cATALLAH 2005: 152; BAZIN & EL-ENANY 2010: 19.

⁹⁰ BENNETT 1941: 79.

⁹¹ LANDGRÁFOVÁ 2011: 216f N°. 65.

⁹² METAWI 2015: 277, 279, FIG. 2.

- The use of the name of Osiris added before the names of kings to mean the deceased dates to the 5th dynasty, as mentioned in the Pyramid Texts of the kings of the 5th and 6th dynasty⁹³. At the beginning of the Middle Kingdom, the name of Osiris was added before the names of dead individuals in hope that they would be resurrected like Osiris, the symbol of resurrection⁹⁴. Other stelae that similarly write the name of Osiris before the names of individuals include that of Amenemhat discovered in Saqqara, which is currently in the Cairo Egyptian Museum TN 10/6/24/8(SR 11732) and dates to the late 18th dynasty⁹⁵; the stela of Hatyai in the Cairo Egyptian Museum (JE 25641) from the Ramesside Period⁹⁶; the stela of Suti dating to the same era and preserved in the same museum (JE 8781(5/11/24/4))⁹⁷; and the 18th or early 19th dynasty stela of *Dḥwty*, in the National Museum of Antiquities in Leiden⁹⁸.

- *nbt-pr*: This title, which refers to the status of women as being married, started to appear on stelae in the late Middle Kingdom⁹⁹, especially in the reign of Amenemhat III. It continued to appear on most funerary stelae in the following periods¹⁰⁰. Obsomer and Ilin-Tomach mention that the title was displayed on some stelae prior to Amenemhat's rule¹⁰¹. Among the stelae displaying this title are stela N^o. 53, which was discovered in the area of Serabit el-Khadim and dates back to the reign of Amenemhat III¹⁰², and the stela of *pA-Ra* in the Pushkin Museum in Moscow dating to the 19th dynasty¹⁰³. This is in addition to the stela discovered in Kafr 'El-Gabl and currently in the Giza main magazine (N^o. 45), dating to the reign of Ramses II¹⁰⁴, and the 25th dynasty stela of *Hr-nxt* preserved in the Cairo Egyptian museum (JE 18651)¹⁰⁵.

- *ir (i)n*: This phrase is displayed in several funerary stelae which are dated to the New Kingdom, especially the Ramesside Period¹⁰⁶, and means «made by»¹⁰⁷. It is usually followed by the name of the dedicator of the stela.

⁹³ HART 2005: 116.

⁹⁴ LURKER 1980: 93; WILKINSON 2003: 122.

⁹⁵ cASSEM 2006: 63f, 66.

⁹⁶ GABALLA 1979: 46, 50, FIG. 2.

⁹⁷ GABALLA 1979: 42, 50, FIG. 1.

⁹⁸ cAFFARA 2010: 147, 151, FIG. 1.

⁹⁹ SMITHER & DAKIN 1939: 160, PL. XX, N^o. 2; PESTMAN 1961: 11, N^o. 1; STEFANOVIĆ 2009 B: 7-9; ROBINS 1979: 208, N^o. 4; WARD 1982: 99, N^o. 823; LABRIQUE 2003: 270, PL. I a; SALEH 2007: 71.

¹⁰⁰ FREED 1996: 331.

¹⁰¹ OBSOMER 1993: 166f; ILIN-TOMICH 2011: 126.

¹⁰² 'AL-AYEDI 2005: 57f, FIG. 1.

¹⁰³ HODJASH & BERLEV 1982: 141, N^o. 82.

¹⁰⁴ cABD 'EL-'AL 1990: 7, PL. 1, FIG.1.

¹⁰⁵ cABD 'EL- MAGIUD 2015: 77f, pl. 1.

¹⁰⁶ STEWART 1976: PL. 33 N^o. 3, PL. 37, N^o. 3, PL. 38, N^o. 2; HODJASH & BERLEV 1982: 141, N^o. 82, 142 N^o. 84.

Examples of stelae with this phrase are stela CGC 34133 of the New Kingdom, which is currently in the Cairo Egyptian Museum¹⁰⁸, and the stela of *sny-nfr* dating back to the 18th dynasty¹⁰⁹. Another is the stela of *H^c-m-tr* family and the scribe *kn-hr- hps.f*, preserved at the Chicago Institute of Oriental Studies (E 14315), from the reign of Ramses II¹¹⁰. A further instance is the stela discovered in Heliopolis which is now in Ny Carlsberg Glyptothek, Copenhagen (AEIN 589), and dated to the 20th dynasty¹¹¹.

It is worth mentioning that by placing the title *nbt-pr* before the name of the woman depicted in the mourning position, it is argued that the woman who dedicated the stela to Ptahmes is most likely to be his sister or wife, given the fact that this title is only given to married women. An example of stelae that display the phrase (*ir(t) (i)n snt.f nbt pr*) «made by his sister, the lady of the house» in the presence of his wife is the 18th dynasty stela (TN 2/11/24/1) in the Egyptian Museum¹¹². Stela British Museum 183, also of the 18th dynasty, has the phrase (*ir(t) (i)n snt.sn*) «made by their sister» clearly spelled out¹¹³. Among the stelae which display the title *nbt-pr* followed by the name of the wife of the stela owner are that of *k3-s3*, in the Cairo Egyptian Museum and dating to the 19th dynasty¹¹⁴, as well as the stela of *Mr-ndm* in the British Museum (N°. 1188), which belongs to the same era¹¹⁵. The lady in the mourning position might thus be Ptahmes' wife, who dedicated this stela in honor of her husband and his parents.

Personal Names

The personal names mentioned on this stela are attested in Ranke, namely *Pth-ms* and *p3-kd*, which he reads as *p3-kd(w)*, *iry-r* and *shmt*, which all appeared in the New Kingdom¹¹⁶. The name *Pth-ms* was popular in ancient Egypt and was written on many monuments, such as the 18th dynasty Book of the Dead of *nb-sny*, which was discovered in Saqqara and is now in the British Museum (EA 9900/32)¹¹⁷. It is also mentioned on several New Kingdom stelae in the Leiden Museum Nos. S. 56, N°. 20, S.73, N°. 120, S. 78, N°. 124¹¹⁸.

¹⁰⁷ ERMAN & GRAPOW (Eds) 1982: *Wb.* I, 111 N°. 7; SEIPEL 1989: 270, N°. 441.

¹⁰⁸ LACAU 1909: pl. LV.

¹⁰⁹ DORN & PAULIN-GROTTE 2009: 9f, Abb.2.

¹¹⁰ TEETER 2014: 147, 151.

¹¹¹ MOURSI 1987: 230, 231, Abb. 3.

¹¹² GABALLA 1979: 47, 50, FIG. 3.

¹¹³ JAMES 1970: 19, Pl. XV.

¹¹⁴ BAKRY 1962: 10f, 14, pl. II.

¹¹⁵ BIERBRIER 1982: 23, pl. 54.

¹¹⁶ RANKE 1935, 41, N°. 28, 120, N°. 2, 140, N°. 9, 319, N°. 21.

¹¹⁷ RUSSMANN 2001: 195.


¹¹⁸ BOESER 1913: 2, 8, Index C N° XX, tafs. VIII, N°. 5, XV, N°. 27, XVIII, N°. 28.

Furthermore, the names *shmt* and *p3-kd* appear on the stela of *Huy*, which is currently preserved in the same museum S.67, N°. 75 and dates back the 18th dynasty¹¹⁹. As far as the name *iry-r* is concerned, it is mentioned on the base of a New Kingdom statue of a dog made of black granite, which is currently preserved in the Alexandria Museum, Hall N°. 10 with registration N°. 1933¹²⁰.


Remarks on the Texts of the Stela


-The writing method of the word *hnty* with the *pr* sign in the title "*hnty imntt*" is rare and different from its writing method in WB¹²¹, Faulkner¹²² and Leitz¹²³.

- It is possible to complete the vertical strokes, which refer to plurality and were first used in the second half of the 11th dynasty¹²⁴, attached to the head of the ox and the

bird in the abraded portion to read as  *k3w 3pdw*. This is a frequently occurring structure of the offering formula in similar texts, as is represented on stela S. 65, N°. 60 in the Leiden Museum which dates back to the 18th dynasty¹²⁵, as well as the stela(N°. 700) stored in the British Museum from the Ramesside Period¹²⁶.

-The epithet *m3^c hrw*, which means 'justified', does not appear after the name of Ptahmes, though it was frequently mentioned after the name of the owner of the stela in reference to his death¹²⁷.

-It is to be noted that the artisan of the stela wrote the word "*kd*" in the personal name *p3 kd* by using the  sign, whereas Ranke refers to "*kd*" in the same name by the papyrus scroll

¹²⁸. The same holds true for stela S.67, N°. 75 that is preserved in Leiden Museum, and dates to the 18th dynasty¹²⁹. Furthermore, WB mentions the word *kd* with the papyrus scroll and "*t*"¹³⁰. This indicates that the ancient Egyptians employed a variety of ways to write the word *kd*, by using the papyrus scroll or "*t*".

IV. DATING OF THE STELA

To conclude, this stela dates to the time of the New Kingdom, and precisely the Ramesside Period, according to the following evidence, most of which has been mentioned above:

¹¹⁹ BOESER 1913: 4, Index C N° XVIII, Taf. III; RAUE 1999: 282.

¹²⁰ DARESSY 1904: 125, N°. XXXVII; RANKE 1935: 41 N°. 28.

¹²¹ ERMAN & GRAPOW (Eds): *Wb.* 1, 87, N°. 13; ERMAN & GRAPOW (Eds) 1982.: *Wb.* III, 305 N°. 8-14.

¹²² FAULKNER 1981: 194.

¹²³ LEITZ 2002: 783.

¹²⁴ SELIM 2001: 263.

¹²⁵ BOESER 1913: 6, TAF. V, N° 19.

¹²⁶ BIERBRIER 1993: 22, PL. 71.

¹²⁷ BALIGH 2008: 172, note 18.

¹²⁸ RANKE 1935: 120, N°. 2.

¹²⁹ BOESER 1913: 4, Index C N° XVIII, TAF. III.

¹³⁰ ERMAN & GRAPOW (Eds) 1982.: *Wb.* V, 80, N°. 7- 17.

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The representation of the perfume cone on the head of men and women appeared in the 18th dynasty onwards¹³¹. In addition, the kind of perfume cone depicted in this stela was common in the 19th dynasty¹³².

The model of the chair on which the individuals sit was prevalent in the New Kingdom.

The garment of the mourner epitomizes the style of mourners' costumes as they appeared in the New Kingdom.

The representation of the pyramidion on the top of funerary stelae was very common in the Ramesside Period, especially the 19th dynasty.

The depiction of the body of individuals as elongated and thin is characteristic of the Ramesside Period.

The kilt of Ptahmes was widely worn in the 19th dynasty.

The writing of the offering formula *hṯp-di-nsw* on this stela was common in the New Kingdom.

The personal names mentioned in this stela first appeared in the New Kingdom.

The phrase "*ir (i) n*" (made by) was widespread on funerary stelae in the New Kingdom.

The appearance of the eye sign with eyelashes was used in writing from the 18th dynasty onwards.

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¹³¹ DEMARÉE 1983: PLS. II ca 1/4, VI ca 1/4, VII ca 1/2, XII ca 1/3; GREEN 2001: 73.

¹³² CHERPION 1994: 79-81

BIBLIOGRAPHY

- ‘ABD’AL-‘AL, A. M.: «Three Unpublished Stelae from the Egyptian Museum, Cairo», In *Supplément aux Annales du Service des Antiquités de L’Égypte*, Cahier N°. 34 , vol. 1, Edited by ZAHY A. HAWASS & KHALED A. DAOUD , 45-61, Le Caire, 2008.
- _____.:«A Late Middle Kingdom Offering Table Cairo Temp. N°. 25.10.17.1», *MDAIK* 62, 2006, 1-6.
- ‘ABD’EL-‘AL, S.: «A Family Stela from Kafr El-Gabal», *GM* 171, 1990, 7-11.
- ‘ABD’EL- MAGIUD, Z. R.: «Two Painted Wooden Stelae from the Cairo Museum, (JE18651& JE 4886) », *SHEDET* 2, 2015, 76 - 86.
- ‘ABD’EL-RAHIEM, M.: «The Treasurer of the King of Lower Egypt Meru», *SAK* 31, 2003, 1-8.
- ‘ABD’EL- RAZIQ, A.: «A Middle Kingdom Funerary Stela of A Woman at Al- Salam School Museum, Assiut», *JEA* 99, 2013, 275-281.
- ‘AFFARA, M.: «A New Kingdom Stela in the National Museum of Antiquities, Leiden», *JARCE* 46, 2010, 147-157.
- ‘AL-‘AYEDI, A.-R.: «Stela Sinai 53: A New Perspective», In *Supplément aux Annales du Service des Antiquités de L’Égypte*, Cahier N°. 34, vol. 1, 57-63, Le Caire, 2005.
- ‘ALI, A. A.: «More Unpublished Stelae from Tell Basta and the Earliest Evidence for the Deification of Amenhotep I in the Delta», *GM* 246, 2015, 5- 15.
- ‘ALI, N. O.: «Three Stelae from Ain-Shams», In *the Horizon Studies in Egyptology*, vol.3, Edited by BASEM SAMIR ‘EL- SHARKAWY, 65-75, Cairo, 2009.
- ALLEN, T. G.: *Egyptian Stelae in Field Museum of Natural History*, Chicago: (Chicago Field Museum Press) 1936.
- ALTENMÜLLER- KESTING, B.: *Reinigungsriten im ägyptischen kult*, Hamburg: (Lüdke bei der Uni) 1968.
- ALTENMÜLLER, H.: «Die Wanddarstellungen im Grab des Mehu in Saqqara», *AV* 42, 1998.
- ASSEM, R.: «Stela JE 34542, Cairo Museum», *JARCE* 48, 2012, 185- 189.
- _____.: «Stela of Ameneminet (TN. 10/6/24/8) », *MDAIK* 62, 2006, 63-66.
- ‘ATALLAH, M.: « Eine Stele aus dem Mittleren Reich im Ägyptischen Museum Kairo », In *Supplément aux Annales du Service des Antiquités de L’Égypte*, Cahier, N°. 34 , vol. 1, 151-158, Le Caire, 2005.
- _____.: «Eine Pyramidionstele eines Trompeters aus dem Ägyptischen Museum in Kairo», *OLA* 150/1, 2007, 97- 108.
- BAKRY, H. S. K.: « Two New- Kingdom Stelae», *ASAE* 57, 1962, 9-14.
- BALIGH, R.: «Three Middle Kingdom Stelae from the Egyptian Museum in Cairo», *JARCE* 44, 2008, 169-184.
- BAZIN, L. & ‘EL-ENANY, K.: «La stèle d’un “Chancelier du roi et Prophète d’Amon de la fin du Moyen Empire à Karnak, (Caire JE. 37507) », *Karnak* 13, 2010, 1-23.
- BENNETT, C. J. C.: «Growth of the *hṯp -dI- Nsw* Formula in the Middle Kingdom», *JEA* 27, 1941, 77-82.
- _____. «Motifs and Phrases on Funerary Stelae of the Later Middle Kingdom», *JEA* 44, 1958, 120-121.
- BIERBRIER, M. L.: *The British Museum: Hieroglyphic Texts from Egyptian Stelae*, vol.12, London (British Museum Press) 1993.
- _____. *The British Museum: Hieroglyphic Texts from Egyptian Stelae*, vol.10, London: (British Museum Press) 1982.

THE FUNERARY STELA OF PTAHMES FROM THE RAMESSIDE PERIOD IN HELIOPOLIS

- BOESER, A.: *Beschreibung der Aegyptischen Sammlung des Niederländischen Reichsmuseums der Altertümer in Leiden, Stelen*, vol. 3, Leiden, 1913.
- BORGHOUTS, J.: «Libation», *LÄ* 3, 1980, 1014-1015.
- BOTHMER, B.: *Egyptian Art*, Oxford (Oxford University Press) 2004.
- BROVARSKI, E. J.: «An Unpublished Stele of the First Intermediate Period in the Oriental Institute Museum», *JNES* 32/4, 1973, 453-465.
- BRUNNER-TRAUT, E.: «Lotos», *LÄ* 3, 1980, 1091-1096.
- CHERPION, N.: «Le (Cone d'Onguent), Gage de Survie», *BIFAO* 94, 1994, 79-106.
- DARESSY, M. G.: «Inscriptions Hiéroglyphiques du Musée d'Alexandrie», *ASAE* 5, 1904, 113-128.
- DAVIES, N de G.: *The Tomb of Rekh-Mi-RE at Thebes*, vol. 2, New York: (Arno Press) 1973.
- DAVIES, N de G & DAVIES, Nina de G.: *The Tombs of Two Officials of Tuthmosis the Fourth (Nos.75 and 90)*, London: (Oxford University Press) 1923.
- DAVIES, N. de G & GARDINER, A. H.: *The Tomb of Antefoker, Vizier of Sesostris I, and of His Wife, Senet*, London (William Clowes and Sons) 1920.
- DEMARÉE, R. J.: *The 3h ikr n R^c stelae; on Ancestor Worship in Ancient Egypt on Ancestor Worship in Ancient Egypt*, Egyptologische Uitgaven 3, Leiden (Universiteit van Amsterdam) 1983.
- DERCHAIN-URTEL, M.-T.: «Osiris im Fadenkreuz», *GM* 156, 1997, 47-54.
- DORN, A. & PAULIN-GROTHER, E.: «Die Stele Sen(y) nefers und Grabkegel_(Cones) aus dem tal der Könige, Die Geschichte Ortsfremder Objekte», *GM* 222, 2009, 9-11.
- DUQUESNE, T.: *The Jackal Divinities of Egypt I: From the Archaic Period to Dynasty X*, Oxfordshire Communications in Egyptology 6, London (Darengo publications) 2005.
- DZIOBEK, E.: «Das Grab des Ineni Theban Nr. 81», *AV* 68, 1992.
- EL-BANNA, E.: «Deux Compagnons de Métier sur une Stéle Inédite», *JEA* 76, 1990, 175-178.
- EL-GABRY, D.: «A Late Middle Kingdom Private Stela of the Priests of Hathor (Cairo Museum CG. 20780)», *JARCE* 51, 2015, 266-275.
- EL-SAADY, H.: «Two Heliopolitan Stelae of the New Kingdom», *ZÄS* 122, 1995, 101- 104.
- ERMAN, A.: «Zum Namen des Osiris», *ZÄS* 46, 1967, 92-95.
- ERMAN, A. & GRAPOW, H. (Eds.): *Wörterbuch der Ägyptischen Sprache I-V*, Leipzig (J. Hinrichs) 1926-1931.
- FAULKNER, R. O.: *The Ancient Egyptian Pyramid Texts*, Oxford: (Clarendon Press) 1969.
- _____.: *A Concise Dictionary of Middle Egyptian*, Oxford: (Ashmolean Museum Press) 1981.
- FISCHER, G.: «A God and A General of the Oasis on a Stela of the Late Middle Kingdom», *JNES* 16, 1957, 223-235.
- _____., *The Tomb of IP at el Saff*, New York: (Metropolitan Museum of Art) 1996.
- FRANKE, D.: «The Middle Kingdom Offering Formulas A challenge», *JEA* 89, 2003, 54-57.
- FREED, R.: «Stela Workshops of Early Dynasty 12», in *Studies in Honor of William Kelly Simpson*, vol. 1, Edited by PETER DER MANUELIAN, 297-336, Boston, 1996.
- GABALLA, G. A.: «False – door Stelae of some Memphite Personnel», *SAK* 7, 1979, 41-52.
- GARDINER, A.: *Egyptian Grammar*, London: (Oxford University Press) 1950.
- GREEN, L.: «Hairstyles», In *The Oxford Encyclopedia of Ancient Egypt*, vol.2, Edited by DONALD B. REDFORD, 73-76, Cairo: (AUC Press) 2001.

- : «Clothing and Personal Adornment », In *The Oxford Encyclopedia of Ancient Egypt*, vol.1, Edited by DONALD B. REDFORD, 274-279, Cairo: (AUC Press) 2001.
- HALLMANN, A.: «Three Unusual Stelae from Abydos», *JEA* 101, 215, 131-152.
- HART, G.: *The Routledge Dictionary of Egyptian Gods and Goddesses*, London and New York (Taylor & Francis Group) 2005.
- HARTWIG, M. K.: *Tomb Painting and Identity in Ancient Thebes, 1419-1372 BCE*, Brussels: (Brepols Publishers) 2004.
- HERMANN, A., «Die Stelen der Thebanischen Felsgräber der 18 Dynastie», *ÄF* 11, 1940.
- HODJASH, S. & BERLEV, O.: *The Egyptian Reliefs and Stelae in the Pushkin Museum of Fine Arts, Moscow, Leningard* (Aurora Art Publishers) 1982.
- HÖLZL, R.: «Round- Topped Stelae from the Middle Kingdom to the Late Period. Some Remarks on the Decoration of Lunettes», *SCIE* 1, 1992, 258-289.
- : «Stelae» In *the Oxford Encyclopedia of Ancient Egypt*, vol. 3, Edited by DONALD B. REDFORD, 319-324, Cairo (AUC Press) 2001.
- ILIN-TOMICH, A. : «A Twelfth Dynasty Stela Workshop Possibly from Saqqara», *JEA* 97, 2011, 117-126.
- : «Changes in the Htp-di-nsw Formula in the Late Middle Kingdom and the Second Intermediate Period», *ZÄS* 138, 2011, 20-34.
- JAMES, T.: *The British Museum: Hieroglyphic Texts from Egyptian Stelae*, vol.9, London: (British Museum Press) 1970.
- JOSEPHSON, J. A.: *Catalogue Général of Egyptian Antiquities in the Cairo Museum NRS. 48601- 48649, Statues of the XXVth and XXVIth Dynasties*, Cairo (The Supreme Council of Antiquities Press) 1999.
- KUHLMANN, K. P.: *Der Thron im Alten Ägypten, Glückstadt* (J. J Augustin) 1977.
- LABRIQUE, F.: «Two Monuments of the high Steward Senaa-Ib of the Middle Kingdom», *RdE* 54, 2003, 270-278.
- LACAU, M. P.: *Stèles du Nouvel Empire, in Catalogue général des antiquités égyptiennes du Musée du Caire*, Nos. 34001-34189, Le Caire, 1909.
- MACADAM, L.: *The Temples of Kawa*, vol. I, London (Oxford University Press) 1949.
- LANDGRÀFOVÀ, R.: *It is My Good Name That you should Remember: Egyptian Biographical Texts on Middle Kingdom*, Prague, 2011.
- LEITZ, CH.: *Lexikon der Ägyptischen Götter und Götterbezeichnungen*, vol.2, *OLA* 111, 2002 .
- -----: *Lexikon der Ägyptischen Götter und Götterbezeichnungen*, vol. 5, *OLA* 114, 2002.
- LEPROHON, R. J.: «The Offering Formula in the First Intermediate Period», *JEA* 76, 1990, 163-164.
- LICHTHEIM, M.: «The Stela of Taniy. CG.20564 its Date and its Character», *SAK* 16, 1989, 203-215.
- LURKER, M.: *The Gods and Symbols of Ancient Egypt*, London (Thames and Hudson) 1980.
- MALAISE, M.: «La Position de la Femme sur les Steles du Moyen Empire», *SAK* 5, 1977, 183-198.
- MARÉE, M.: «A Sculpture Workshop at Abydos from the Late Sixteenth or Early Seventeenth Dynasty», *in the Second Intermediate Period*, *OLA*. 192, Edited by MARCEL MARÉE, 241-281, Leuven, 2010.
- METAWI, R.: «The Stela of the Chief Interior - Overseer to the Treasurer *Hrw-nfr* (Cairo Museum CG 20563)», *JARCE* 44, 2008, 141-151.
- : «An Interesting New Kingdom Stela from Thebes Cairo Museum (CG.34045)», *JARCE* 51, 2015, 277-284.
- MOURSI, M.:« Two Ramesside Stelae From Heliopolis», *GM* 105, 1988, 59 - 64.

THE FUNERARY STELA OF PTAHMES FROM THE RAMESSIDE PERIOD IN HELIOPOLIS

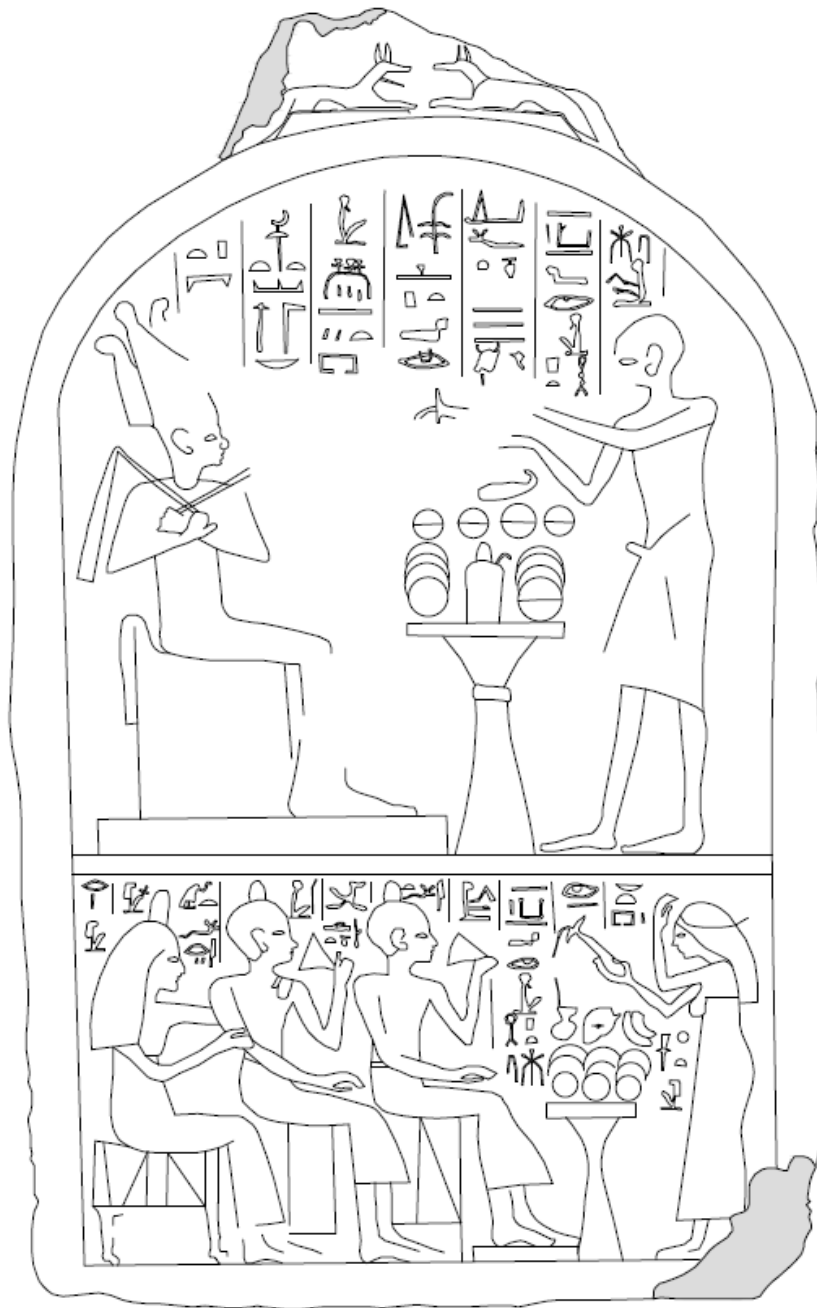
- «Corpus der Mnevis-Stelen und Untersuchungen zum Kult der Mnevis-Stiere in Heliopolis I», *SAK* 14, 198, 225-237.
- OBSOMER, C. : «di.f prt-xrw et la filiation *ms(t).n/ ir (t).n* comme critères de datation dans les textes du Moyen Empire», In *Individu, Société et Spiritualité dans l'Égypte Pharaonique et Copte*, édits par CHRISTIAN CANNUYER et JEAN- MARIE KRUCHTEN, 163-196, Bruxelles, 1993.
- PESTMAN, P.: *Marriage and Matrimonial Property in Ancient Egypt*, Leiden: (E. J. Brill) 1961.
- PFLÜGER, K.: «The Private Funerary Stelae of the Middle Kingdom and Their Importance for the Study of Ancient Egyptian History», *JAOS* 67, 1947, 127-135.
- RADWAN, A.: «Six Ramesside Stelae in the popular Pyramidion – Form», *ASAE* 71, 1987, 223-228.
- : «Darstellungen der Aufgehenden Sonne auf Einigen Stelen der Ramessidenzeit», In *Studien zu Sprache und Religion Ägyptens*, vol.2, 823-827, Göttingen , 1984.
- .: «The Stela Louvre C211», *BACE* 21, 2010, 99-114.
- RANKE, H.: *Die Ägyptischen Personennamen*, vol.1, Glückstadt (J. J. Augustin) 1935.
- RAUE, D.: *Heliopolis und das Haus des Re*, Berlin (Achet-Verl) 1999.
- ROBINS, G.: «Hair and Construction of Identity in Ancient Egypt, C. 1480 – 1350 B.C.», *JARCE* 36, 1999, 55-69.
- .: «The Relationships Specified by Egyptian Kinship Terms of the Middle and New Kingdom», *CdE* 54, 1979, 197- 217.
- ROEDER, G.: *Aegyptische Inschriften aus den Staatlichen Museum zu Berlin*, vol.2, Leipzig, 1924.
- RUSSMANN. E. R.: *Eternal Egypt, Masterworks of Ancient Art from the British Museum*, California (University of California Press) 2001.
- SAIED, A.: «Eine Schöne Stele des Bürgermeisters , *šdj it.f'* aus dem Ägyptisches Museum, Kair» In *Egyptian Museum Collections around the World*, vol. 2, Edited by MAMDOUH ELDAMATY & MAI TRAD, Cairo (AUC press) 2002.
- SALEH, H.: *Investigating Ethnic and Gender Identities as Expressed on Wooden Funerary Stelae from the Libyan Period (C.1069-715B.C.E.) in Egypt*, Oxford (Archaeopress) 2007.
- SALEH, J. M.: *Les Antiquités Égyptiennes de Zagreb*, Paris (Walter de Gruyter GmbH) 1970.
- SAMUAL, D.: «Bread», In *The Oxford Encyclopedia of Ancient Egypt*, vol.1, Edited by DONALD B. REDFORD, 196-198, Cairo: (AUC Press) 2001.
- SEIPEL, W.: *Ägypten. Götter, Gräber und die Kunst*, vol.1, Linz, 1989.
- SELIM, H.: «Three Identical Stelae from the End of the Twelfth or Thirteenth Dynasty», *SAK* 29, 2001, 319-330.
- .: «The Stela of *t3-ḥb't* in the Cairo Museum», In *Institut français d'archéologie orientale: Bibliothèque d'Étude 138*, 253-258, Le Caire, 2003.
- .: «An Eleventh Dynasty Stela in the Cairo Museum (Cairo Temp. 27.4.22.5)», *MDAIK* 57, 2001, 257 - 269.
- .: «The Stela of *Hr-wḏw* in the Cairo Museum (JE .41332)», *SAK* 28, 2000, 243-256.
- SHALABY, M. A.: «The Stela of *W3ḥ – ḥrt- nḥt* (JE .57112)», *SHEDET* 3, 2016, 24-33.
- SILVERMN, D.P. & BROVARSKI, E.: *Searching for Ancient Egypt*, New York (Cornell University Press) 1997.
- SIMPSON, W. K.: *Giza Mastabas, The Mastabas of Qar and Idu*, vol. 2, Boston (Eastern Press INC.) 1976.
- SMITHER, P. C.: «The Writing of *ḥtp- di- nsw* in The Middle and New Kingdoms», *JEA* 25, 1939, 34-37.

- SMITHER, P. C. & DAKIN, A. N.: «Stelae in the Queen's College, Oxford», *JEA* 25, 1939, 157-165.
- STEFANOVIĆ, D.: «Four Middle Kingdom Stelae from the National Archaeological Museum, Athens», *JEA* 96, 2010, 207-2015.
- _____, «Offerings for the KAS of Six Ladies (British Museum Stela N°. 1679)», *Journal of Classical Studies Matica Srpska* 11, 2009 A.
- _____: *The Non-Royal Regular Feminine Titles of the Middle Kingdom and Second Intermediate Period: Dossiers*, London: (Golden House Publications) 2009 B.
- STEWART, H. M.: *Egyptian Stelae, Reliefs and Paintings*, vol. 1, London (Aris & Phillips Ltd.) 1976.
- TEETER, E.: «A Stela of the Family of Khaemtir (i) and the Scribe Qenherkhepshef (i) (Chicago OIM E 14315)», *JARCE* 50, 2014, 147-159.
- _____, «Inside The Temple: The Role and Function of Temple Singers» in *The Life of Meresamun, A Temple Singer in Ancient Egypt*, Edited by EMILY TEETER & JANET H. JOHNSON, 25-29, Chicago: (The Oriental Institute Museum Publication) 2009.
- VALBELLE, D.: «Témoignages du Nouvel Empire sur les cultes de Satis et d'Anoukis á Éléphantine et á Deir 'El-Médineh», *BIFAO* 75, 1975, 123-145.
- WARD, W. A.: *Index of Egyptian Administrative and Religious Titles of the Middle Kingdom*, Beirut (AUB Press) 1982.
- WESTENDORF, W.: *Ältägyptische Darstellungen des Sonnenlaufes auf der abschüssigen Himmelsbahn*, *MÄS* 10, 1966.
- WILKINSON, R. H.: *The Complete Gods and Goddesses of Ancient Egypt*, London (Thames & Hudson) 2003.



[FIGURE 1]: Stela of Pth-ms (in 'Arab 'El-Hesn magazine at 'El-Matariya under registration N°. 235).

Photo taken by Marion Wenzel



Done by Rasha Abdelhafez

لوحة جنازية لبتاح مس من عصر الرعامسة في هليوبوليس

جيهان رشدي محمد وخالد محمد أبو العلا

أستاذ مساعد - قسم التاريخ بكلية التربية / جامعة عين شمس

مدير عام موقع المطرية وعين شمس الأثرى بوزارة الآثار.

الملخص

تتناول الورقة التالية دراسة ونشر لوحة جنازية لرجل يدعى بتاح مس، وقد عُثِرَ عليها في هليوبوليس وعلى وجه التحديد في المنطقة التي تقع إلى الشرق من منطقة عين شمس، وهذه اللوحة محفوظة حاليًا في مخزن عرب الحصن الذي يوجد في منطقة المطرية وذلك تحت رقم تسجيل ٢٣٥، وهي لوحة مصنوعة من الحجر الجيري، وتُعتبر خالية تمامًا من أى آثار للألوان بها. على الرغم من كون هذه اللوحة في حالة جيدة من الحفظ إلا أنه يوجد بها بعض الأجزاء المفقودة، وتتمثل هذه الأجزاء فيما يلي ذكره: النصف العلوي من الشكل الهرمي والركن السفلي الأيمن للوحة، هذا بالإضافة إلى أنه توجد بعض الأجزاء الأخرى المهشمة في النصف العلوي. تتكون اللوحة قيد الدراسة من صفيين من النقوش الغائرة المحززة يفصل بينهما خط أفقي مزدوج، وهي تُمثل مستوى متوسط من حيث جودة الفن. يشمل النصف العلوي من اللوحة منظر للإله أوزير - وهو الإله الوحيد الذي تم تمثيله في هذه اللوحة - وكذلك منظر لصاحب اللوحة وهو بتاح مس الذي كُرس له لوحة الدراسة، بينما يتضمن النصف الثاني مجموعة من الأفراد الذين ينحدر معظمهم من نفس العائلة وهم كالتالي: بتاح مس، والدته إيري-را، ووالده با قد، وكذلك امرأة قد تم تمثيلها في وضع الحزن وهو وضع الحداد، وهذه المرأة لم يتم تحديد هويتها، وقد كُرسَت هذه اللوحة لبتاح مس. تتناقش المقالة السمات الفنية والنصوص الهيروغليفية والبعد الديني للشكل الهرمي الذي قد تم تمثيله أعلى اللوحة الجنازية وكذلك الرموز الواردة به. تبين بشكل واضح من خلال تحليل المناظر والنصوص الهيروغليفية الواردة بلوحة الدراسة أن هذه اللوحة يمكن أن يعود تاريخها إلى فترة عصر الدولة الحديثة، وعلى وجه الدقة عصر الرعامسة.

الكلمات الدالة: بتاح مس، أوزير، الشكل الهرمي، انوبيس، عصر الرعامسة، لوحة جنازية، هليوبوليس.

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FOUR GREEK OSTRACA IN THE EGYPTIAN MUSEUM IN CAIRO

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FOUR GREEK *OSTRACA* IN THE EGYPTIAN MUSEUM IN CAIRO

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ABSTRACT

The paper is an edition of four unpublished Greek documentary *ostraca* that form part of a larger collection in the Egyptian Museum in Cairo. This group of four is divided into two sub-groups, which are housed on the third floor of the Egyptian Museum, in room D3East. The *ostraca* were brought to the museum on January 25th 1955 from the region of Thebes, and specifically from either Elephantine or Syene, sites mentioned in some of the *ostraca*, including O. N°. 20b discussed here. The four *ostraca* presented here have the same inventory number, S.R.18953. The editor has assigned a separate serial number to the two sub-groups. They date back to: 1- The 23rd year, 21st of Pachon 2nd century BCE, mostly 19 June 158 BC; 2- the 30th year, the 22nd of Pharmouthi of the reign of Ptolemy IX Soter II May 3rd 87 BC; 3- Beginning of 2nd century AD; and 4- 2nd century AD. The first document is O. N°. 6b and measures 11.9 cm in width x 12.9 cm in length. It is bilingual and consists of five complete lines, four of Greek and one of Demotic, that have been written on the recto convex, while the verso concave is blank. It is a granary receipt in which two tax-payers acknowledge that they have paid five and one-six artabas of wheat to a sitologos whose name is illegible. The document has some problematic readings in the propername in the beginning of line 2 and the proper name in line 4. The second document is O. N°. 20b and measures 5.1 cm in width x 8.7 cm in length. It preserves seven complete lines and the verso is blank. This document mentions clearly in line two the place to which it belongs, i.e. Syene, modern Aswan. It is possibly a Treasury receipt, since almost all parallels with the same or close formula are Treasury receipts. The hand is well-trained and the text is almost legible and clear except for the last word in line 6. In the text, *Patapes* declares that he paid an amount of money to an official whose name or title is not clear in the text, yet is probably the banker of the village. The third is O. N°. 6a and measures 13 cm in width x 12 cm in length. This potsherd has preserved four complete lines on the recto, while the verso is blank. It is a short *Decania* List «groups of camel-drivers» which has the number «25», which was probably given to each group of the *Decania*. The fourth *ostrakon* is O. N°. 20a and measures 9.2 cm in width x 6.5 cm in length. It has preserved three complete lines that have been written on the recto and the verso is blank. It is «A person Name», unusual in that one person's name has been written in *ostrakon*. There are a couple of suggestions for why this *ostraca* was produced: either because of the importance of this person, where he, his patronymic and grandfather's name were mentioned, or he was a chief of *Decania* «decanos».

KEYWORDS: Papyrology, Greco-Roman history, Greco-Roman period, *Papyri*, Egyptian Museum, *Ostraca*, Greek language

I. INTRODUCTION

According to the online database of PN and other resources, e.g. HGV, APIS, a tremendous number of *ostraca* (over 4000) pieces have been found in Thebes so far, which reflects the importance of these jar sherds as a main source for record-keeping by the administration¹ throughout the years in Upper Egypt.

As mentioned previously,² this small collection of *ostraca* belongs geographically to the same group, yet each differs in date. The *ostraca* were brought to the museum on January 25th 1955 from the region of Thebes, and specifically from either Elephantine or Syene. They are part of a larger group of *ostraca* (over 100 pieces) that includes Greek and Demotic languages, pieces from the Ptolemaic and Roman periods, documentary and literary texts, and sherds from both fine and poorer quality vessels. Moreover, they cover many topics, such as: tax receipts (a large number of them), letters and lists of names. The collection is preserved in the third floor of the Egyptian museum in Cairo, ³D3East. A relatively large number has been edited so far, some are published (36 documents) and the others are still under study by MA students and the editor of this paper. The edited documents cover a period of time extending from the beginning of the 2nd century BC to the 3rd century AD. The following four *ostraca* have no clear indication of their provenance, except for O. N^o. 20b,⁴ which mentions Syene (modern Aswan) in line 2 as a place in which the text is written. The earliest is 6b, which dates back to 19 June 158 BC and the latest is O. N^o. 20a, which dates to 2nd century AD. O. N^o. 6b is a Granary receipt, O. N^o. 20b is possible Treasury receipt, O. N^o. 6a is *List of Decania*, while O. N^o. 20a is a List of a Name.

1st Granary ReceiptO. Cairo S.R.18953, O. N^o. 6b

Thebes

11.9 x 12.9 cm

2nd century BC

This light-coloured *ostrakon* is flat rather than curved. It has been broken from a vessel of moderate quality fabric, and has been regularly cut and ground at all sides. Although this potsherd has suffered erosion, scratches, discoloration and some deposition of salt, while some letters are partly effaced, the text is still legible overall.

¹ Most of the published *ostraca* are tax-receipts, signed and collected by officials as the tax collectors, whether a *παιτηταί, πράκτορες*.

² MAGDY 2019: 59

³ Thanks are due to Mrs. SOMAYA ^cABD AL-SAMĪf, ex-curator of the 7th section in the Egyptian Museum in Cairo that holds the group of *ostraca* and her assistants for helping me clean and photograph the collection.

⁴ The way of numbering (i.e. 6b, 20b, 6a and 20a) this collection of *ostraca* is completely the editor's method, where "a" refers to first group and "b" refers to second group. It is not the Egyptian Museum in Cairo's (which has its own system of cataloging i.e. SR, JE, TR and CG). The two main groups have been divided to facilitate the editing of these documents.

The bilingual *ostrakon* preserves five complete lines (four Greek and one Demotic). The text shows some signs of elegance and a general attractive appearance. The scribe has used a relatively thick nib with black ink, which is faded in some parts, although without affecting the readability of the text. The document has been written in two hands. The first hand, that has written the body of the text, is slow and the letters are short and contracted with a tendency towards ligatures. It is of a medium-sized cursive.

There are traces of letters at the upper edge of the potsherd (part of short and long legs of a letter and traces of black ink afterwards along the edge). It is probably part of a previous text that was written at the upper edge that was then broken off and the sherd worked to be reused.

The characteristics of the letters show some consistency as follows. The *kappa*, whether drawn as a number or as a letter, is a sloping V-shape with a horizontal connective. The *phi* is a small contracted circle with long ascender and descender. The *alpha* is written without lifting the pen in two small sloping strokes begins with a serif and forming an acute angle. The *epsilon* is drawn as a crescent shape with an attached tongue. The second hand has written the name in line 4 where the letters are slightly larger than first hand, while the *upsilon* and *kappa* has been written without lifting the pen, and *lambda* is formed by two strokes. The interlinear are even at ca. 0.8 cm. The scribe has left a vast lower margin of ca. There is a sign which resembles (πυροῦ ἀρτάβαι) in line 3; there is no punctuation or diacritical marks. According to palaeographic grounds, this document may be dated back to the 2nd century BC. As with all the other documents, this document belongs to Thebes, either Elephantine or Syene. It is a Granary receipt in which *Enouphis* son of Pates grandson of *Phaeres*, and *Phibis* his mother being *Iazaria*, acknowledge that they have paid five and one-six artabas of wheat to *Eukles*, who might be a sitologos.

The following seven documents are the closest parallels for this text:

O. Wilck 711, unknown, Thebes, 300 BC - 101 BC; *O. Wilck 1520*, unknown, Thebes, 146 BC - 135 BC; *O. Wilck 1498*, unknown, Thebes, 111 BC; *O. Wilck 1342*, unknown, Thebes, 111 BC; *O. Wilck 321*, unknown, Thebes, 112 BC; *O. Wilck 352*, unknown, Thebes, 119 BC; and *O. Wilck 753*, unknown, Thebes, 121 BC.

The names attested in this receipt are: the uncertain Πατῆς, Φαηρέους, Φιβίς and Ἰαζάριας. The verso has no writing.

TRANSCRIPTION

(Ἔτους) κγ Παχών κα με(μετρήκασι) κγ (ετους)

Ἐνουπὸς(ς) Πατῆς Φαήρεους <καὶ>

Φίβις Ἰαζάριας (πυροῦ ἀρτάβας) πέντε $\frac{1}{6}$ (γίνονται) ε $\frac{1}{6}$

(Hand 2) Εὐκλῆς

4- trace of a Demotic line

TRANSLATION

The 23rd year, 21st of Pachon, *Enoupis* son of Pates grandson of *Phaeres* (and) Phibis (his mother being) Iazaria have paid for the 23rd year five and $\frac{1}{6}$ artabas of wheat, total $5\frac{1}{6}$, total five and $\frac{1}{6}$ artabas of wheat, *Eukles*. Demotic line

COMMENTARY

Line 1 (Ἔτους) κγ Παχών κα με(μετρήκασι) κγ (ἔτους): This document is dated to the 21st of *Pachon* in the 23rd year. Since the document belongs to the Ptolemaic period, the date of this receipt must be one of the following dates: Either 25 June 182 BC (during the reign of Ptolemy V Epiphanes) or 19 June 158 BC (during the reign of Ptolemy VI Philometor). According to palaeographic grounds, it most likely belongs to the reign of Ptolemy VI Philometor, who has ruled about 34 years. Accordingly, it dates to 19 June 158 BC. Another indication for the date of the document is discussed in the note on line 3.

According to parallels and aspects of construction, the abbreviated word με(μετρήκασι) indicates the verb μετρέω ω in the form: perf. ind. act. 3rd plur. This can be cited in many documents in the second century BC (ca. 229 documents).

Line 2 Ἐνουπὸς(ς) Πατῆς Φαήρεους: Depending upon the formula for these kinds of documents, the word in the beginning of the line should be a name of a place, yet the reading refers to a male personal name (i.e. Ἐνούπις), which is Hellenized from the Egyptian form Ἄνουπις (which refers to the Egyptian god Anubis). It seems that the first two letters *epsilon* and *nu* are ligatured, which is very similar in the preposition *en* in *ostrakon* N°. 2, and connected with a tiny superscripted *omicron* then *upsilon* then *pi*, another superscripted *omicron* that has to be followed by *upsilon*. The name Πατῆς appears 54 times in documentary sources, in both Roman and Ptolemaic eras, and in most of the provenances.

Φαήρεους: the name is cited 12 times, all of them in the 1st or 2nd century AD and all of them in Thebes. The position of the name mostly indicates a «genitive» *patronymic* name with a tiny contracted *omicron*.

Line 3 Φῖβις Ἰαζαρίας: It seems that this person was fatherless⁵ when he got his name and his *metronymic*, and as a person it is the first time he appears in the document. As for the names Φῖβις, it has been attested 81 times, from 225 BC to 641 AD, in most of the provenances. While Ἰαζαρίας is *Hapax* and there are only attestations to the masculine form (Ἰαζάρως) and it is attested *dis-graphomenon* in the Ptolemaic era i.e. BC, in *O. Wilck* 1233, unknown, Thebes, 153 BC and *O. Wilck* 1255, unknown, Diospolis Magna (Thebes), 153 BC. This gives another indication of the date of the document along with the demotic signature in line 5. Nevertheless, it worthwhile pointing out that the name is uncommonly cited in this document, with first declension ending rather than second declension!

Although the construction of the text signifies that both Πατῆς Φαήρεως and Φῖβις Ἰαζαρίας have paid this amount of wheat, the conjunction καὶ is not written.

(πυροῦ ἀρτάβαι) πέντε $\frac{1}{6}$ (γίνονται) ε $\frac{1}{6}$: The amounts (quantities) of wheat in Granary receipts varied from small amounts starting from 2 artabas (*O. Ont.Mus* I 2, Granary receipt Thebes, 141 BC) of wheat reaching to 38 artabas of wheat (*O. Theb* 14 unknown, Thebes, 58 BC). The fraction $\frac{1}{6}$ is not frequently used in the documents, where it has been cited only five times, in: *O. Mich* 1 171, keener, Karanis (Arsinoites), 401 CE - 425 AD; *O. Mich* 1 172, keener, Karanis (Arsinoites), 301 AD - 400 AD; *P. Tebt* 2 388, Loan of Grain and Money, Tebtynis (Arsinoites), 98 AD; *SB*, 6 9436, Receipts for payments in kind, mostly with the inclusion of the εἰκοστή, but with the exclusion of the ναῦλον πλοίου, Karanis (Arsinoites), 301 AD - 500 AD; and *SB*, 22 15732, Sitologenquittung, Theogonis (Arsinoites), 86 AD.

Line 4 Εὐκλῆς : The name is clear and legible. It is mostly the name of the *sitologos*, yet there is no *sitologos* called Εὐκλῆς attested in the published documents(i.e. PN, HGV or TM) so far.

Line 5: The Demotic signature usually one line is one of the idiosyncrasies of the Ptolemaic documents.

2nd Treasury receipt?

O. Cairo S.R.18953, O. N°. 20b

Syene

5.1 x 8.7 cm

May 3rd 87 BC?

⁵ KEENAN & MANNING: 2014: 164, 201.

This small irregular pentagonal potsherd with a base and vertex has been broken from a poor quality pottery vessel. It is of a dark-brown color. The surface has severely suffered some scratches here and there.

In addition to a big blot of oil and some minor spots along the right side of the text, there is a salt encrustation at the beginning of the first two lines. The left, upper and lower margins are preserved, while the right side is broken and a part of the lower right margin is preserved. The upper margin is of ca. 2.3 cm, and the lower margin is ca. 1.8 cm. The four edges are regular and smoothed mostly by the draughtsman, whereas the left edge is broken irregularly. The text was written on the recto «common softened used side» (i.e. the convex side). The *ostrakon* has preserved complete seven lines.

The text has been written in black ink with blunt nib. The general appearance of the text shows that the hand is a regular one and clearly well-trained. It is of medium-sized cursive with a tendency towards ligature. The characteristics of the letters include the following aspects: The *phi* has been drawn with a small contracted triangle rather than circle and ascender and descender invade the interlinear spaces. The *sigma* is small crescent but has been drawn in two strokes. The *tau* and *upsilon* are very similar as a short V-shaped with two arches used as connectives to preceding and following letters. The *alpha* has one loop attached to a connective shallow dished stroke. The interlinear spaces are even and of ca. 0.2 cm; at times a space is left between words. The text has signs and monetary abbreviations; there is no punctuation, yet there is a diaeresis (*trema*) on the *upsilon* of Σὺνήνη in line 2. As it is cited in line 2, the document belongs to Syene (modern Aswan), Thebaid region; Ombite nome. The palaeographical features and the formula of the document refer to the beginning of 1st century BC. The document is possibly a Treasury receipt. Patapes declares that he made a payment (one thousand seven hundred thirty) of unmentioned money or in-kind type to an official of the village Syene, whose name or title is not clear in the text, yet is most likely the banker of Syene. The following 12 documents offer good parallels:

BGU 6 1306, Treasury receipt, Elephantine or Syene, 95 BC; *BGU 6 1307*, Treasury receipt, Elephantine or Syene, 86 BC; *BGU 6 1308*, Treasury receipt, Elephantine or Syene, 103 BC; *BGU 6 1309*, Treasury receipt, Elephantine or Syene, 77 BC; *BGU 6 1315*, Treasury receipt, Elephantine or Syene, 103 BC - 102 BC; *BGU 6 1316*, Treasury receipt, Elephantine or Syene, 102 BC; *BGU 6 1317*, Treasury receipt, Elephantine or Syene, 99 BC; *BGU 6 1318*, Treasury receipt, Elephantine or Syene, 99 BC; *O.Cair 8*, Receipt for payment of tax on ἀκρόδρα, Elephantine or Syene, 92 BC- 91 BC; *O.Leid 19*, Receipt for Tax on Fruit Trees, Elephantine or Syene, 79 BC; *P.Eleph.Wagner 1 287*, Tax Receipt on Fruit tree, Elephantine or Syene, 88 BC; and *SB 1 1096*, Tax receipt, Elephantine or Syene, 66 BC - 37 BC. All belong to either Elephantine or Syene. The verso is blank.

TRANSCRIPTION

ἔτους λ Φαρμοῦθι κβ
 τέτα(κται) ἐπὶ τὴν ἐν Συήνη [τράπεζαν]
 λ (ἔτους) Παταπῆς
 4- χιλίας ἑπτακοσίας τριάκον[τα
 (γίνονται) 2 ψλ
 αὐτῆς (ἔτους) λ Παῦν(ι)
 Demotic line

CORRECTIONS

Line 6: αὐτῆς → αὐτοῦ

TRANSLATION

The 30th year, the 22nd of Pharmouthi

Patapes has paid for the 30th year in Syene one thousand seven hundred thirty, total 1730. The same 30th year. Paun (i)

COMMENTARY

Line 1 ἔτους λ Φαρμοῦθι κβ: Although the day of the month is partly covered by the blob of oil, it still clear.

According to the formula of the text and comparing it with similar documents, it mostly refers to the reign of Ptolemy IX Soter II. If that is so, the document dates to May 3rd 87 BC.

Line 2 τέτα(κται) ἐπὶ τὴν ἐν Συήνη [τράπεζαν]: The phrase is relatively common, which might led to the faulty orthographic *parablepsy* of the *iota* of the preposition ἐπί *diaeresis* (*trema*) upon the *upsilon* is merely a dot.

The phrase has been attested fourteen times in: *BGU* 6 1306 to *BGU* 6 1309, and from 1315 to 1318 as a «Treasury receipt», Elephantine or Syene, dated on 2nd and 1st BC. And *o.berl* 21, Unknown, Diospolis Magna (Thebes), 2 AD.

The other documents (*O.Cair* 8, *O.Leid* 19, *O.Leid* 175, *P.Eleph.Wagner* 1 287) are a «Receipt for Tax on Fruit Trees», belong to Elephantine or Syene and date back to the 1st century BC.

The verb τέτακται has been written sometimes in full form (two times) and sometimes abbreviated, as in this document, in the form τέτα(κται) (six times), or τέ(τακται) (four times) or τ τακ (ται) (only once). The construction of the text suggests an official recipient after the name of the village, mostly the τράπεζαν of the village.

There is almost a constant formula followed by the treasury receipts of Syene, incorporating the following elements:

- Date of the receipt
- The bank of Syene to which the amount has been paid
- The name and the title of the banker
- The name of the current year
- Either fishermen (ἀλιέων) or fruit-trees (ἀκροδρύων) of a place
- The amount is in letters and numbers
- The name and title of the banker
- Sometimes a demotic signature line

Line 3 (ἔτους) λ Παταπής: The name was attested seven times, in *O. Heid* 329, different lists, Ta Memnoneia (Thebe) sunknown, Hermonthis, 101 AD - 200 AD; *O. Ont. Mus* 2 248, List of Names, Ta Memnoneia (Thebes) unknown, Hermonthis, 1 AD - 400 AD; *O. Ont. Mus* 2 277, Memorandum, Thebes, 1 AD - 400 AD; *O. Stras* 1 641, unknown, Ta Memnoneia (Thebes), 101 AD - 300 AD; *O. Wilck* 1023, unknown, Thebes, 300 BC - 201 BC; *O. Wilck* 1156, unknown, Thebes, 1 AD - 400 AD; and *SB* 22 15442, mummy tablets, Ta Memnoneia Thebes, 201 AD - 400 AD. As can be seen, all belong to Thebes and date to the Roman period except for *O. Wilck* 1023, which dates back to the Ptolemaic era. In being dated a century earlier, it is not the same person as in the current document.

Line 4 χιλίας ἑπτακοσίας τριάκοντα: It is worth noting that there is no mention of the type of currency by which Patapes has paid the amount mentioned in the text (i.e. 1730); that is. in money or in-kind. The text might indicate a «Treasury receipt» (e.g. *BGU* 6 1307, Treasury receipt, Elephantine or Syene, 86 BC). According to the texts of Treasury receipts so far published, the amounts generally range from 525 to 2780.

Line 6 αὐτῆς (ἔτους) λ Παῶν(ι): A scribal grammatical error of the gender of the personal pronoun αὐτοῦ at the end of the line is problematic; a barely legible *pi*, tiny *alpha* then *upsilon* and *nu* that led to the month Παῶν(ι) with an abbreviated *iota*. Without mentioning a day number!

Line 7 Demotic line.

3rd Decania
List

O. Cairo S.R.18953, O. N°. 6a
13 x 12 cm

Thebes
Beginning of 2nd century
AD

This medium irregular trapezoid *ostrakon* is bright brown in color and has been cut from a piece of moderate quality pottery. The potsherd has been regularly cut and smoothed at all sides. The surface has suffered erosion, deposits of salt, and some letters are partly effaced, but the text is still generally legible. Except for some scratches at the left and upper sides, the *ostrakon* is generally in good condition. The four margins have been preserved: while a very large blank area (ca. 6.4 cm) has been left out at the lower margin, the right margin is larger than left and it is ca. 4.8 cm. There is a blot of oil at the top side to left, most probably from antiquity. The four edges are regular and have been smoothed. This potsherd preserves four complete lines. The text was written on the convex side in medium-sized cursive with a light black ink. The hand is moderately skilled and the faulty orthography occurs in lines 2, 3 and 4. The contracted letters and short ascenders and descender show some aspects of Bradygraphy. There are no ligatures.

The characteristics of the letters' appearance show consistency in terms of the following: *Alpha* has a loop attached to an oblique stroke. *Rho* is contracted and has a round head with short descender. *Psi* has been formed by drawing two crossed vertical and horizontal strokes at the middle, while the descender and ascender are equal. The *nu* is shaped as a capital Roman M with a foot or a connective to the left. The scribe uncommonly shaped the *omicron* as a small triangle rather than circle with a serif. The *epsilon* has been drawn as a lunar with a rather cupped stroke from the upper end. The interlinear spaces are uneven and there is a tendency towards spacing between words. In addition to a horizontal superlineation over the κε, there is no punctuation or diacritical marks. On palaeographical grounds, this document dates to the beginning of the second century AD, and belongs to Thebes. The document is a short *Decania* List «groups of camel-drivers» which has the number «25» that probably was given to each group of the *Decania*.

The similar attestations to this document are: *O.Heid* 411, Dekania-Liste, Ta Memnoneia (Thebes) or Hermonthis, 101 AD - 300 AD; *O.Kell* 125, Dekania list, Kellis (Oasis Magna), 201 AD - 400 AD; *O.Lund* 23, Liste über δεκανία, Arsinoites (?), 276 AD - 325 AD; *O.Lund* 24, Liste über δεκανία, Thebes (?), 1 AD - 400 AD; *O.Mich* 4 1136, Dekania-Liste, Karanis (Arsinoites), 301 AD - 325 AD; and *P.Oxy* 12 1512, List of δεκανίαι, Tholthis (Oxyrhynchites), 301 AD - 400 AD.

The persons mentioned in the text are: Ἀρσινῶι Ψενγαμοῖνις, Παθιοῦς Παθιοῦς and Ὁρου Πετοσιρῖς. The verso is blank.

TRANSCRIPTION

δεκ(ανία) κ̄ε
 Ἄρσινωη Ψενναμοίνις
 ᾠ Παθιοῦς Παθιοῦς
 4-υ<ι>οῦ Ὁρου Πετοσίρις

CORRECTIONS

Line 2: Ἄρσινωη	→	Ἄρσινωης
Ψενναμοίνις	→	Ψενναμουνέως
Line 3: Παθιοῦς	→	Παθιῆς
Line 4: ὑου	→	υῖοῦ
Πετοσίρις	→	Πετοσίρεως

TRANSLATION

The 25th of *decania*

Arsinoes son of Psennamounis. 1 Pathies son of Pathies son of Horus son of Petosiris

COMMENTARY

Line δεκ(ανία) κ̄ε : has been written abbreviated in this form only five times; three in *O. Berenike* 3: 296, 423 and 435, all of which are Receipts for water and belong to the same date 51 AD - 100 AD; *O. Heid* 411, Dekania-Liste, Ta Memnoneia (Thebes) or Hermonthis, 101 AD - 300 AD; and *O. Bodl* 2 1923, unknown, Thebes, 201 AD - 300 AD.

The word generally appears in the online database more than 150 times, beginning from 51 AD (*O. Berenike* 2 226) to the middle of 6th century 556 AD.

The word appears in LSJ as: the tenth, guard-house of *adecuria*, measure or division of land. Other editors⁶ mention it just as a «gang or group». But etymological the word might refer to: δεκα + ανια «ten-bridle»⁷. Actually, the *decaniai* were «groups of camel-drivers»⁸ and *decania* was a single group. Each group was led by *decanos/ dekanos*. The *decania* was mainly used in reference to individual men, yet sometimes referred to women. These individuals mostly bear Egyptian names, many of them theophoric as in this case of Πετοσίρις «who was given by Osiris» *Demotisches Namenbuch* p. 298-299 & 527. But they sometimes bear mixed Greek-Egyptian filiations. It is worth mentioning that, according to Rodney Ast,⁹ camel-driving was a family business. The *decaniai* delivered commodities such as: wheat, wine, some medicines ingredients, barley, lentils, anise, tow, leather bags, oil, bread, wood planks, and clothing. Most of the

⁶ *O. Claud* 1 134. Letter from Domitius curator to Successus, Mons Claudianus, 107 AD.

⁷ As indication to the bridles of the camels that are hold and controlled by the camel-driver.

⁸ *Ast* 2018: §3

⁹ *Ast* 2018: §3

documents mentioning the *decania* were receipts of water. The majority of the documents in which δεκανία are cited belong to Berenike, with 119 in *O. Berenike*, and 38 in other collections.

As for the $\overline{\kappa\epsilon}$ «25th», it is most likely the number of the *decania*, an identification number that was given to each group of «camel-drivers».

Line 2: Ἀρσινωη Ψενγαμοῖνις: the scribe has forgotten to write the final *sigma* in Ἀρσινωη (Ἀρσινωης) as a *parablepsy* error, which was common in the period¹⁰. Another conversion between vowels has been cited in the text, where the scribe has converted the *diphthong* ου with the *diphthong* οἰ¹¹. The name Ψενγαμοῖνις has been attested only once in *P.Bad* 4 53, Λόγος οἴνου, Hipponon (Herakleopolites), 301 AD- 400 AD but with *onenu* instead of two, and with the *diphthong* ου instead of the *diphthong* οἰ.

Line 3: the *alpha* with the horizontal sign stroke at the beginning might refer to this person who is the elder and has a younger brother with the same name, and *O. Berl. 77*.

Line 2 and 3: Παθιοῦς Παθι[οῦς πρεσβ(υτέρου)] καὶ Παθιοῦς Παθιοῦς γεω(τέρου).

.Παθιοῦς Παθιοῦς: it is a person's name and his *patronymic*. The scribe has written the first name in genitive instead of nominative; this instance «*dis legomenon*» in this form in the documents; in *O.Berl 77*, unknown, Ta Memnoneia (Thebes) or Hermonthis, 101 AD-200 AD, and *O.Heid 354*, List of amounts of wheat, Ta Memnoneia (Thebes) or Hermonthis (?), 101 AD - 200 AD, which might be the same person! It is an Egyptian name and according to TM, the geographical spread for this name shows it was around Theban region as well as Pathyrites (Gebelein).

There is a prolonged inward-curved stroke, which could be the end of the *sigma*.

Line 4 υ<ι>οῦ Ὁρου Πετοσιρίς: The scribe forgot to write the *iota* of υἱου which is cited in the documents nine times in both AD and BC.

Πετοσιρίς: He who was given by Osiris (Demotisches Namenbuch p. 298-299 & 527). It is currently attested 264 times. And it should be formed in the genitive i.e. Πετοσίρεως.

4th A person Name!

O. Cairo S.R.18953, O. N°. 20a

Thebes

9.2 x 6.5 cm

2nd century AD

¹⁰ For the omission of the final sigma see, GIGNAC 1976: vol. 1: *Phonology*, 124-125.

¹¹ GIGNAC 1976: 215

This small *ostrakon* has a bright-brown color and it has been broken from a moderate quality pottery jar. It has an irregular hexagonal shape with a base at the bottom and a vertex at the top. The surface is marred by faint letters, a deposit of salt here and there, scratches and a spot of ink, none of which impairs the legibility of the text. The *ostrakon* has preserved three margins: the upper margin is ca. 1.9 cm, the vast lower margin, which is ca. 5.6 cm, and a narrower left margin. The left upper edge is rather broken, while the upper right, right, lower and the two left sides are regular and smoothed. The text has been written on the convex side of the potsherd. The *ostrakon* has preserved three complete lines that have been written in a faded dark color with a relatively thick nib. The text has been written in a medium-sized cursive; it is fluent and in a well-formed hand with infrequent ligatures. The *psi* had been formed by a dashed stroke with a hook at the left; a very long descender invades the interlinear spaces to the following line, ending with a foot facing left. *Chi* has been drawn with two crossed diagonal strokes with a hook at the left lower end. *Nu* is drawn as a capital Roman N with a loop at the upper right leg and foot facing right. The *sigma* is either a lunate with prolonging at the upper end, or two small strokes with a junction forming a right angle. *Mu* has been formed as a deep wave without lifting the pen with a short contracted left serif rather than a leg. The *omega* is wavy and drawn without lifting the pen, with a connective with the following letter. The interlinear spaces are uneven and the text is a *scriptura continua* rather than having spaces between words. Neither abbreviations nor signs are attested in this document, nor any punctuation or diacritical marks. This document also belongs to Thebes (either Elephantine or Syene). On palaeographic grounds, the text dates to the second century AD. It is unusual that one person's name has been written on the *ostrakon*; the name is Πεκμηῆτος son of Ψενχώνσιος grandson of Σαχομνέως. The reason why this sole name was written is obscure, but there are a couple of suggestions that can be raised: 1- It indicates the importance of the owner of this document where it mentions his name, *patronymic* and his grandfather's name, something which is not common in the documents. 2- The name also might refer to a *decanos*¹².

The concave side (i.e. verso) has no writing. The next seven documents stand as good parallels for this text: *P.Eleph.Wagner* 1 113, List of names, Elephantine, 1 AD – 200 AD; *P.Eleph.Wagner* 1 114, List of names, Elephantine, 1 AD - 200 AD; *P.Eleph.Wagner* 1 115, List of names, Elephantine, 101 AD - 150 AD; *P.Eleph.Wagner* 1 307, List of names, Elephantine, 101 AD - 300 AD; *P.Eleph.Wagner* 1 350, List of names, Elephantine, 101 AD - 200 AD; *P.Eleph.Wagner* 1 356, List of names, Elephantine, 101 AD - 200 AD; and *P.Eleph.Wagner* 1 359, List of names, Elephantine, 1 AD - 200 AD.

¹² See note on line 1 of O. N° 6a

TRANSCRIPTION

Πεκμη̄τος Ψεν-
χμουμιος Σα-
χομνέως

TRANSLATION

Pekmeis son of Psenchonis grandson of Sachomnis

COMMENTARY

Line 1: Πεκμη̄τος, genitive of Πεκμη̄ς, it is an Egyptian name. It has been attested 25 times in different forms in genitive (Πεκμη̄τίος, Πεκμη̄ειτος, Πεκμη̄εικος) and nominative (Πεκμη̄ις, Πεκμη̄εις), the earliest in 48 AD and the latest in 212 AD. All of these documents belong to the Arsinoite nome.

Line 1, 2: Ψενχώνσιος, the reading is certain except for the letter *nu* which is partly washed out but still considerably legible. The name is *Hapax*; at least the stem of the word (i.e. not the prefix Ψεν - son of...). Although this is the first time this form appears in the documents, it represents the ancient Egyptian god «*Khonsou*»; so it indicates the same meaning «son of *Khonsou*».

Line 2, 3: Σαχομνέως, in spite of there being a spot of ink over the letter *sigma*, the syllable is still legible and clear. The name is cited 28 times; all of them coming from Thebes «Upper Egypt in general» and dating from 63 AD to 211 AD. Some of them are definitely not the same person. Others give no clear indication that they are certainly referring to the same person as mentioned here, but could do so; such as *O.Ashm* 50, unknown, Thebes, 126 AD. It is worth mentioning that the scribe has written in line 1 and 2 the name and a syllable of the following name (Ψεν-, Σα-).

II. CONCLUSION

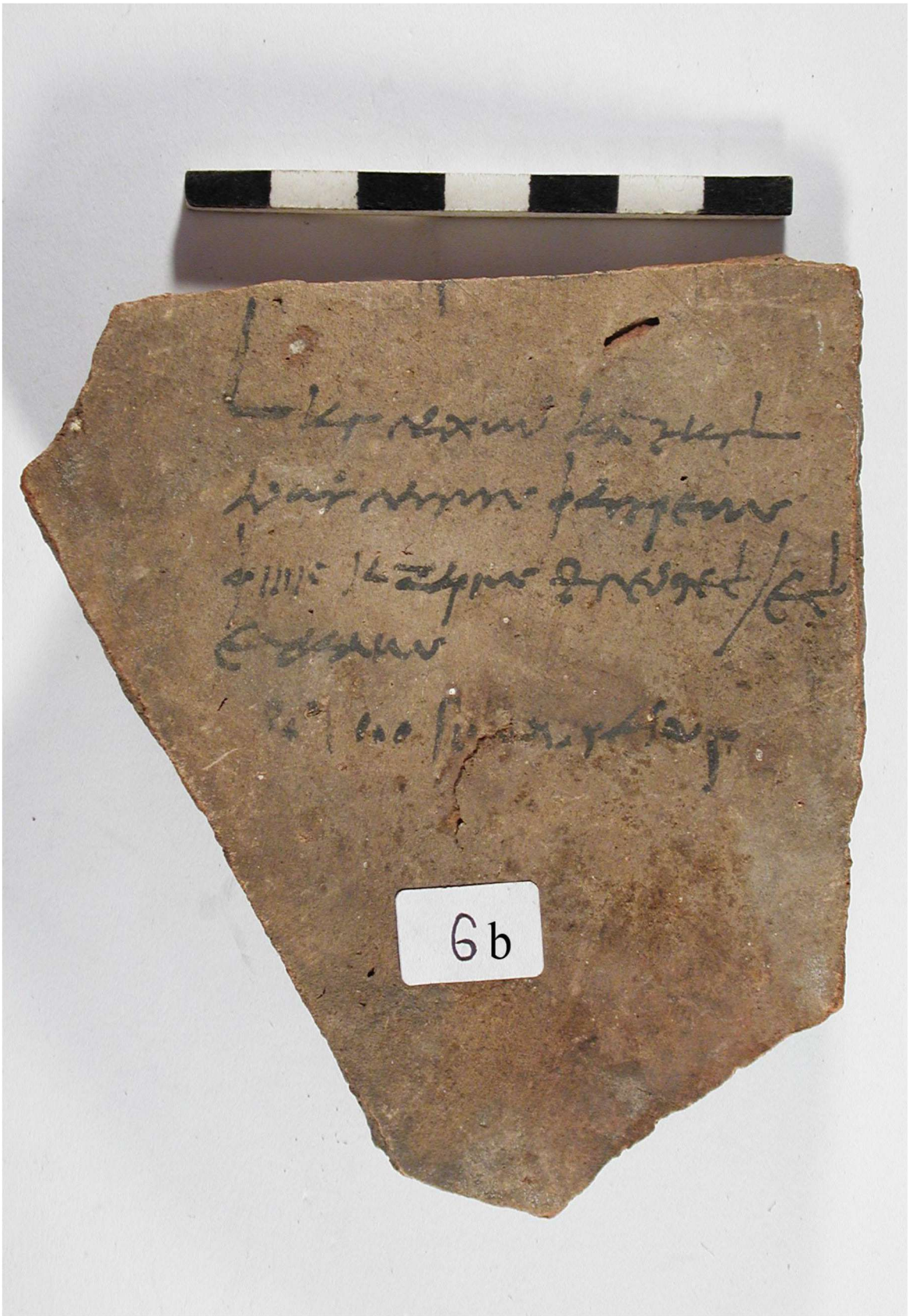
- 1- The importance of the Ombite nome during the Ptolemaic *era* and how the government gave prominence to the granary of wheat.
- 2- The bilingual receipts indicating that there still was a major of people who were Greek-illiterate «*aggramates*».
- 3- The Ptolemaic government was giving major attention to collecting taxes.
- 4- There was some sort of unique transportation system between ancient Egyptian cities/ villages, represented for example in the formation of several groups of camels/ drivers.
- 5- The importance of knowing and using this «very Egyptian» material (i.e. papyrus) to register all daily life interaction among the population and government.

HOW TO CITE

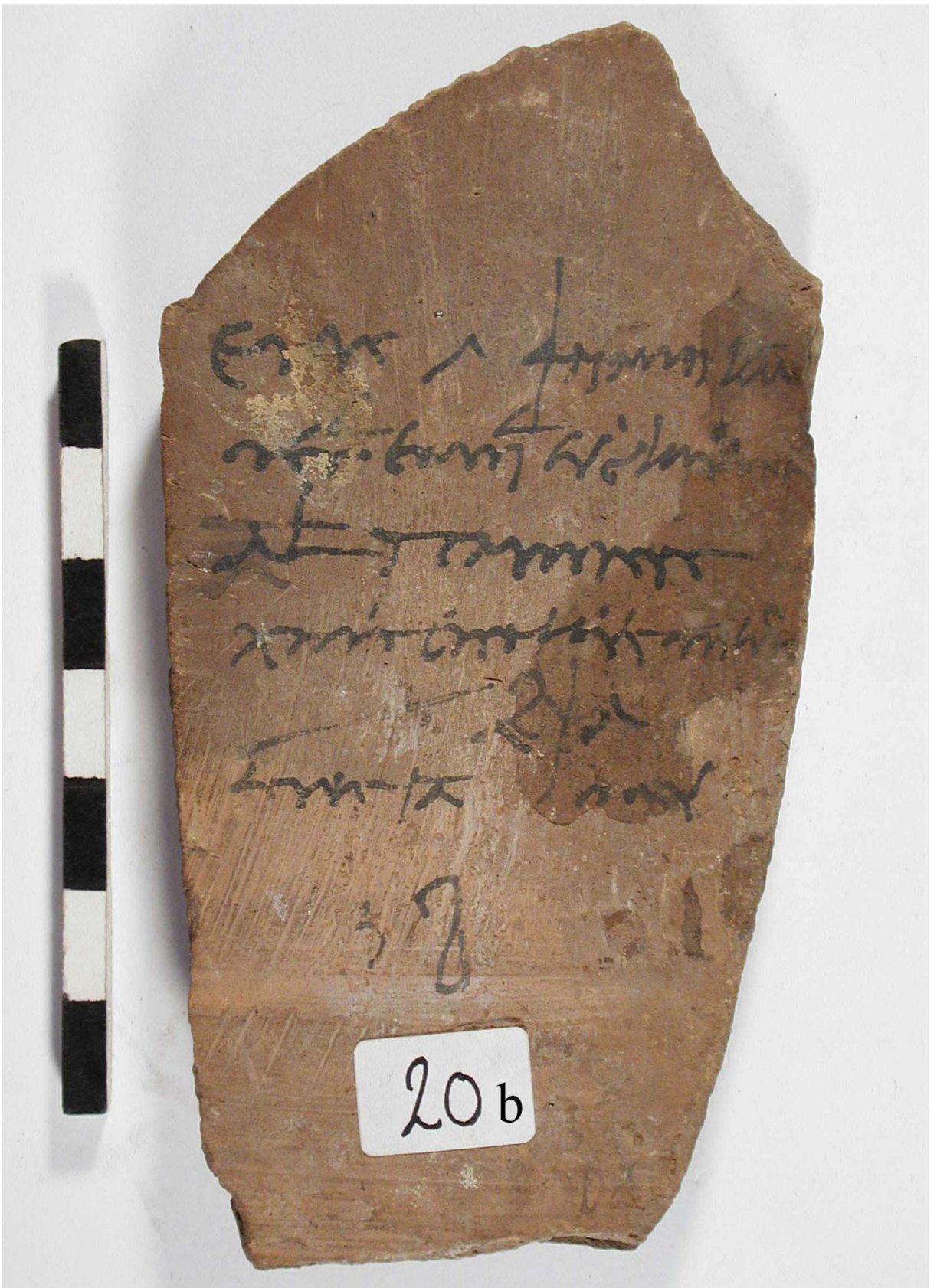
©Aly, M., « Four Greek *Ostraca* in the Egyptian Museum in Cairo», *Journal of the General Union of Arab Archaeologists*, vol. 6/1, 2021. Doi: 10.21608/JGUA2.2020.28843.1030
magdy@mans.edu.eg

BIBLIOGRAPHY

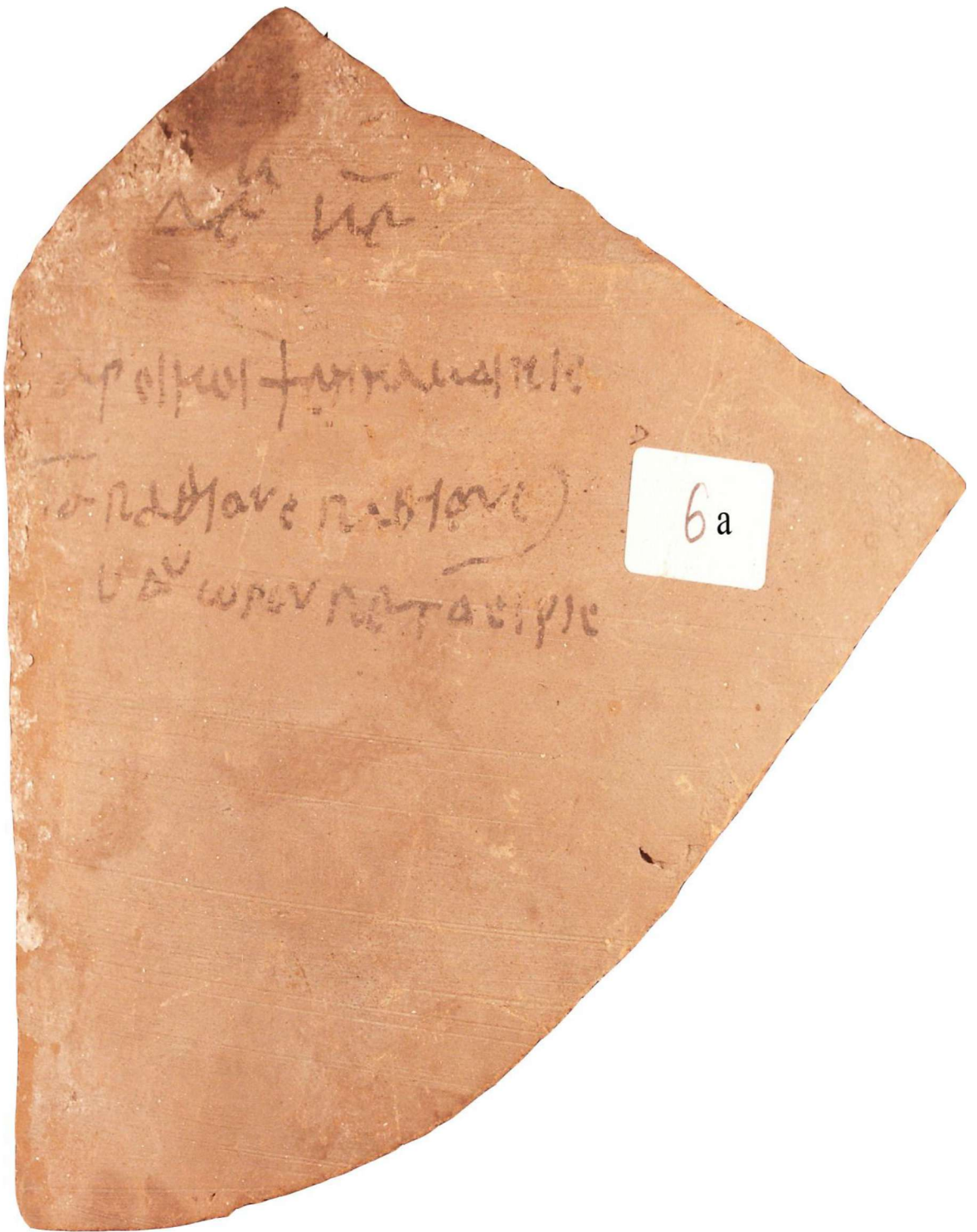
- O. BERL: *Ostraka aus Brussel und Berlin*, (Ed) P. VIERECK. Berlin-Leipzig 1922.
- O. CLAUD: *Mons Claudianus. Ostraca graeca et latina*. I, (Ed) J. BINGEN, A. BÜLOW-JACOBSEN, W.E.H. COCKLE, H. CUVIGNY, L. RUBINSTEIN & W. VAN RENGEM, Cairo, 1992.
- O. LEID. = *Greek Ostraka: a Catalogue of the Greek Ostraka in the National Museum of Antiquities at Leiden, with a Chapter on the Greek Ostraka in the Papyrological Institute of the University of Leiden*, (Ed) R.S. BAGNALL, P.J. SIJPESTEIJN & K.A. Worp. (Terra). Zutphen 1980. Collections of the National Museum of Antiquities at Leiden IV, N^{os}. 1—410. Descripta N^{os}. 411—697.
- O. LUND: *Ostraca Lundensia. Ostraka aus der Sammlung des Instituts für Altertumskunde an der Universität zu Lund*, (Ed) C. Tsiparis. Lund 1979.
- O. MICH: *Greek Ostraca in the University of Michigan Collection*, Ann Arbor (University of Michigan Press), 1935.
- O. STRAS: I, *Griechische und griechisch-demotische Ostraka der Universitäts- und Landesbibliothek zu Strassburg im Elsass*, (Ed) P. VIERECK, Berlin 1923. N^{os}. 1—812; a few are Demotic or bilingual.
- O. THEB: *Theban Ostraca*. London 1913. Univ. of Toronto Studies, Philological Series 1. Part 1, Hieratic Texts, (Ed) A.H. GARDINER; 31 texts on: 1—16 with an additional text in an appendix on: 16a—160. Part 2, Demotic Texts, (Ed) H. THOMPSON; 44 texts not numbered serially on: 23—65. Part 3, Greek Texts, (Ed) J.G. MILNE; N^{os}. 1—146 on : 71—161 with Demotic in N^{os}. 16, 21—26, 28 & 31. Part 4, Coptic Texts, (Ed) H. THOMPSON; N^{os}. 1—48 on: 179—212.
- O. WILB: *Les Ostraca grecs de la collection Charles-Edwin Wilbour au Musée de Brooklyn*, (Ed) C. PRÉAUX, New York (Brooklyn Museum; X-Lib), 1935.
- WILCK. or WO = *Griechische Ostraka aus Aegypten und Nubien*, (Ed) U. Wilcken. Leipzig-Berlin (Nabu Press; Primary Source Edition), 1899.
- P. ELEPH.WAGNER: *Elephantine XIII: Les papyrus et les ostraca grecs d'Elephantine*, (Ed) G. WAGNER. MAINZ 1998. Deutsches archäologisches Institut Kairo, Archäologische Veröffentlichungen 70.
- P. OXY: *The Oxyrhynchus Papyri*. Published by the Egypt Exploration Society in Graeco-Roman Memoirs. London. (Egypt Exploration Society) The number in parentheses at the end of each entry is the number in this series. Earlier vols. carry the heading of Egypt Exploration Fund, Graeco-Roman Branch; even after the title change numbers were not assigned to the volumes until the 1950s.v
- GIGNAC, F.: *A Grammar of the Greek Papyri of the Roman and Byzantine Periods*. Vol.1: *Phonology*, Milano (Istituto editoriale cisalpino-La goliardica), 1976.
- LIDDELL, H. & SCOTT, R.: *A Greek-English Lexicon*. Revised and Augmented throughout by: SIR HENRY STUART JONES, with the assistance of RODERICK MCKENZIE, Oxford, (Clarendon Press) 2005.
- KEENAN, J & MANNING, J.: «Law and Legal Practice in Egypt from Alexander to the Arab Conquest»: *A Selection of Papyrological Sources in Translation, with Introductions and Commentary, Fatherless persons*, Cambridge 2014.
- MAGDY, A.: «Four Ostraca From Thebes» *In Classical Papers*, vol.16, Part 2, the Proceedings of the international Symposium, «Greek and Roman Epic and its Impact on Other Literature», 2 - 4 March 2019, 59-80.
- AST, R.: «Berenike in Light of Inscriptions, Ostraca, and Papyri» In: BRUN, J., FAUCHER, T., REDON, B., & SIDEBOTHAM, S. (Eds), *the Eastern Desert of Egypt during the Greco-Roman Period: Archaeological Reports*, Paris (Collège de France) 2018. DOI:10.4000/books.cdf.5232



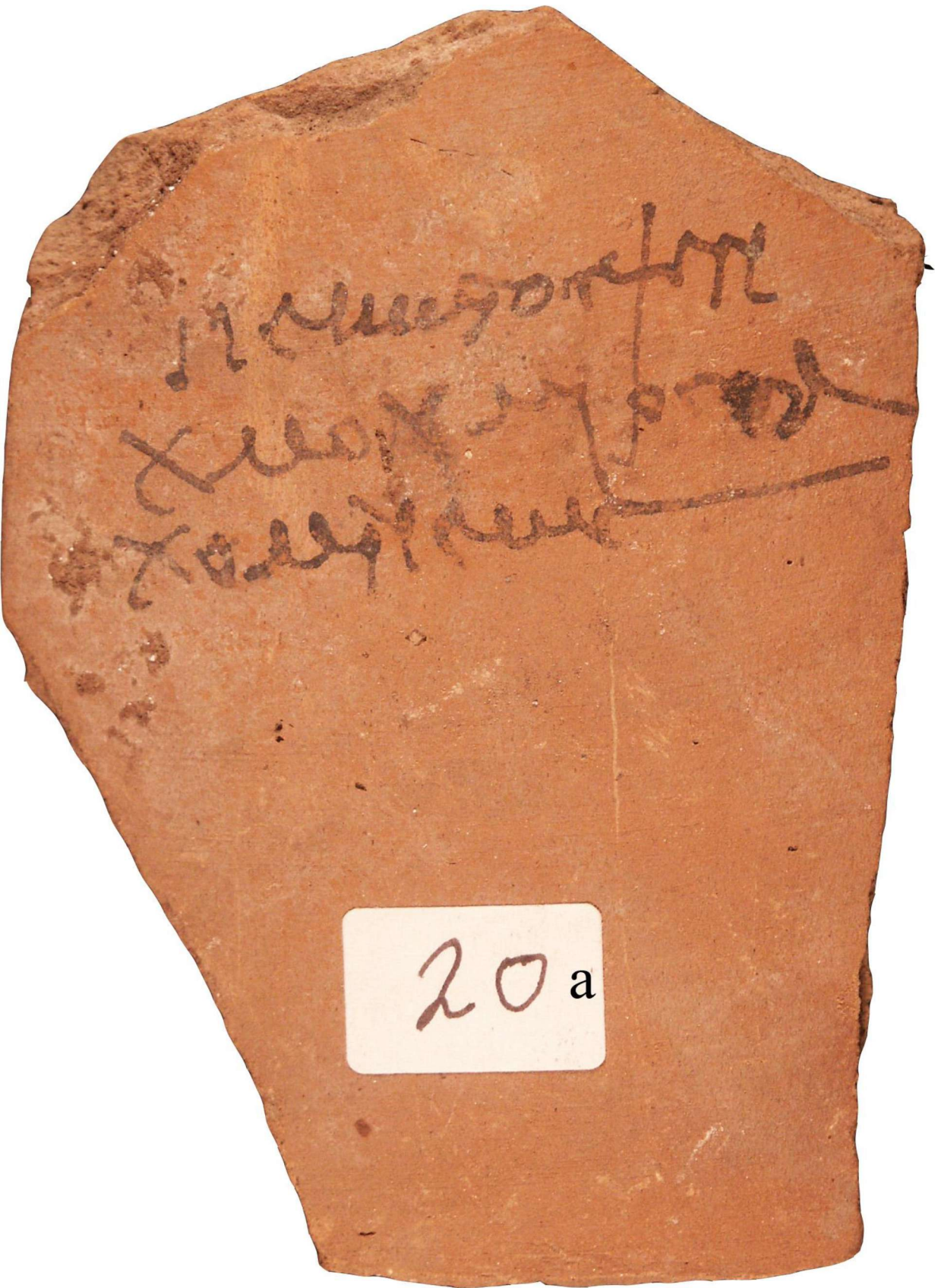
[FIGURE 1]: Photo taken by author



[FIGURE 2]: Photo taken by author



[FIGURE 3]: Photo taken by author



[FIGURE 4]: Photo taken by author

أربع قطع شقافات يونانية من المتحف المصري بالقاهرة

مجدى على

أستاذ مساعد - بكلية الآداب / جامعة منصور

الملخص

البحث عبارة عن ترجمة أربع قطع شقافات وثائقية مكتوبة باللغة اليونانية وهي محفوظة بالمتحف المصري ضمن مجموعة كبيرة من الأوستراكا، تم تقسيمها إلى مجموعتين رئيسيتين في الطابق الثالث من متحف المصري بالقاهرة. D3East. الدور الثالث، د. شرق تم إحضار الشقافات إلى المتحف في ٢٥ يناير ١٩٥٥ من منطقة طيبة على وجه التحديد إما من جزيرة فيلة أو أسوان، كما هو مذكور أحياناً في بعض الشقافات وكما هو مذكور في هذا البحث في أوستراكا رقم ٢٠ب. وقد نُشرت هذه القطع الأربعة لأول مرة. وللأربع قطع نفس رقم الجرد ١٨٩٣٥. قام الباحث بتقييم المجموعتين في رقم تسلسلي منفصل لكل مجموعة. يعود تاريخ هذه القطع إلى: ١- السنة الثالثة والعشرون، الحادى والعشرون من بشنس ١٩ يونية ١٥٨ قبل الميلاد ، ٢- السنة الثلاثين، الثانى والعشرون من برمودة فى عهد بطليموس التاسع سوتير الثانى ٣ مايو ٨٧ قبل الميلاد ، ٣- بداية القرن الثانى الميلادى و ٤- القرن الثانى الميلادى على الترتيب. الوثيقة الأولى هي رقم ٦ب ويبلغ عرضها ١١.٩ سم × ١٢.٩ سم فى الطول. وهي ثنائية اللغة وتتكون من خمسة أسطر كاملة أربعة يونانية وأخرى ديموطيقية تمت كتابتها على الوجه المحدب، في حين أن الظهر المقعر فارغ. وهو عبارة عن إيصال غلال يقر فيه اثنان من دافعى الضرائب بأنهم دفعوا خمسة وسدس أردبات من القمح إلى مسئول الغلال والذي اسمه غير مقروء. يحتوى المستند على بعض الإشكاليات فى القرءة فى اسم العلم فى بداية السطر ٢ واسم العلم فى السطر ٤. الوثيقة الثانية هي رقم ٢٠ب ويبلغ عرضها ٥.١ سم × ٨.٧ سم فى الطول. وقد احتفظت بسبعة أسطر كاملة فى حين أن الظهر فارغ. تشير هذه الوثيقة بوضوح فى السطر الثانى إلى أن المكان الذى تنتمى إليه هو مدينة أسوان. وهو عبارة عن إيصال خزانة غير مؤكد؟ حيث أن جميع الوثائق المشابهة تقريباً التي لها نفس الصيغة أو قريبة منها هي عبارة عن إيصالات الخزانة. الكاتب يبدو انه مدرب جيداً والنص تقريباً واضحاً باستثناء الكلمة الأخيرة فى السطر ٦. فى هذا النص، يعلن باتابس أنه دفع مبلغاً من المال لمسئول اسمه أو وظيفته غير واضحة فى النص، ومع ذلك فهو فى الغالب المصرفى الخاص بالقريه. الوثيقة الثالثة هي رقم ٦أ ويبلغ عرضها ١٣ سم × ١٢ سم طولاً. احتفظت قطعة الفخار هذه بأربعة أسطر كاملة على والوجه ، فى حين أن الظهر فارغ. وهي عبارة عن «مجموعة من سائقى الجمال» فى قائمة «ديكانيا قصيرة» التي تحمل الرقم «٢٥» والتي ربما أعطيت لكل مجموعة من ديكانيا. الوثيقة الرابعة هي رقم ٢٠أ ويبلغ عرضها ٩.٢ سم × ٦.٥ سم طولاً. لقد احتفظت بثلاثة أسطر كاملة مكتوبة على الوجه بينما الظهر فارغ. إنها «اسم شخص!» من غير المعتاد أنه تم كتابة اسم شخص واحد على قطعة من الشقافة. هناك عدد من الاقتراحات لوجود هذا الاسم بمفرده: إما بسبب أهمية هذا الشخص حيث تم ذكره واسم أبيه واسم جده، أو أنه كان رئيساً لمجموعة ديكانيا «ديكانوس».

الكلمات الدالة: علم البردى، التاريخ اليونانى الرومانى، بردى، المتحف المصري، شقافات، العصر الرومانى، العصر البطلمى، اللغة اليونانية.

2021

THE SEVEN SPIRITS (Axw-sfxw) IN THE ANCIENT EGYPTIAN RELIGION

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THE SEVEN SPIRITS  (3hW-sFhW)
IN THE ANCIENT EGYPTIAN RELIGION

By

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ABSTRACT

This paper tackles an important topic in ancient Egyptian religion; the «Seven Spirits». This term is repeatedly mentioned in multiple written forms in religious texts from the Middle Kingdom, the New Kingdom, and the Saite and Late Periods. It seems that these seven deities as creatures or *jinn* were very important in the doctrine of the dead and for their fate in the other world, as evidenced by their frequent mention in religious texts. These deities are named in association with a number of major deities, such as Ra, Osiris, Anubis, Thoth and the four sons of Horus, and they also have a very deep and profound relationship with the deceased and «Big Dipper» group of stars. The texts explicitly disclose their seven names in detail, a number linked to the god Osiris, as they indicate their multiple roles during the deceased's journey in the next world. This study is based on a number of different textual sources and tackles some significant points in ancient Egyptian religion. It attempts to explain and outline:

- The term «Seven Spirits» in ancient Egyptian religion,
- The various written forms of this term,
- The texts in which the Seven Spirits are mentioned from the Middle and New Kingdoms and Late Period, The relationship of the Seven Spirits to other deities mentioned in the same texts, such as Re, Osiris, Anubis, Thoth, Horus and the four sons of Horus,
- The relationship of the Seven Spirits to the symbolism of the number seven in ancient Egypt and its deep connection with the god Osiris, and their association with the group of stars in the northern sky,
- Their relationship with the deceased in the Underworld.

KEYWORDS: Ancient Egyptian Religion, The Seven Spirits, Coffin Texts, Osiris.

I. INTRODUCTION

The term which this paper attempts to examine and interpret consists of two parts: The first part is: *3hw* «the spirits» and the second is: *sfhw* «the seven ones».

The term «Spirits» will first be examined and the second element, «Seven», will then be considered when talking about the connection of these spirits with the number seven, and the symbolic link between this number and the god Osiris and the group of the «Big Dipper» stars in the northern sky.

The term *3h* repeatedly occurs in ancient Egyptian religious texts in a variety of writing forms and with various meanings (see references below). Dictionaries of the ancient Egyptian language through its different ages, give examples of this word from the beginning until the last phase of civilization in all its philological forms, as: noun, verb, adjective and adjectival verb.

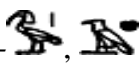
An analysis of the most valuable textual sources and versions of the CT and BD provides detailed information on the «Seven Souls» and: their roles in ancient Egyptian religious thought; their connections with the dead through their journey and their judgment in the Netherworld; their relationship with the other deities in the Underworld; the symbolism of number seven in their names and its significance to the god Osiris; and the idea of everlastingness among the imperishable stars in the northern side of the sky.

II. EXPLANATIONS OF THE WORD *3h*

A detailed search of ancient Egyptian texts and relevant dictionaries for the word *3h* in both its singular and plural forms provides two groups of meanings for it with different senses, and of course, in plentiful and distinguished writing forms. These two groups will be mentioned, and then the most relevant meanings for the expression:

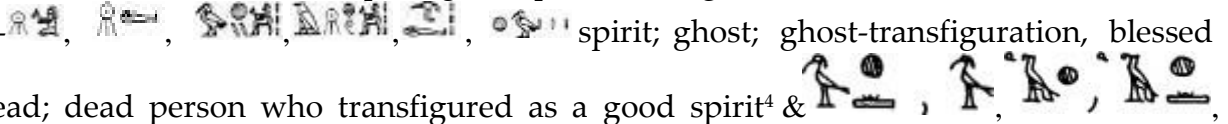
3hw-sfhw (The Seven Akhu) will be focused on in order to provide an accurate translation.

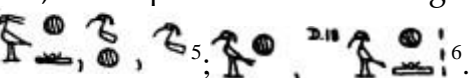
1- As noun:

A-  spirit; spirit-like nature¹.

B-  spirit &  the spirit-state².

C-  spirit; good spirit &  glorious one³.

D-  spirit; ghost; ghost-transfiguration, blessed dead; dead person who transfigured as a good spirit⁴ &

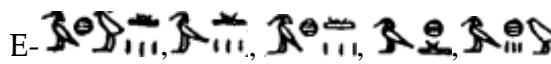



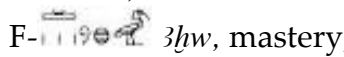
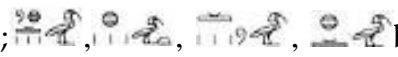
¹GARDINER 1957: 470.

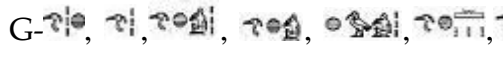
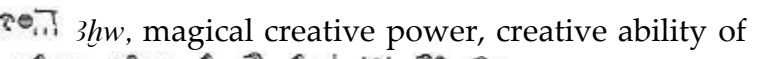
²FAULKNER 1991: 4.

³LESKO 1982: vol.1, 7.


⁴WB1926: vol.1, 15- 16; WILSON 1997: 15.

E-  *shw*, power of god⁷.


F-  *shw*, mastery;  benefactions, good, excellent things, glorifications, advantage, efficiency, ability, benefit⁹.


G-  *shw*, magical creative power, creative ability of god or king, power of god, spells &  glorious, creative force, visible power, glory, created glories¹⁰.

2- as verb:

A-  *sh*, be glorious¹¹.

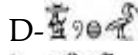
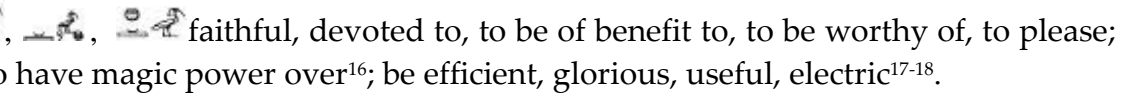
B-  be, become a spirit¹²; 

3- As adjective and adjectival verb:

A-  *sh*, be beneficial¹⁴.

B-  Splendid, beneficial, useful, profitable¹⁵.

C-  to be useful, profitable, excellent, advantageous.

D-  faithful, devoted to, to be of benefit to, to be worthy of, to please;  to have magic power over¹⁶; be efficient, glorious, useful, electric¹⁷⁻¹⁸.

Among the previous philological translations of the word *sh*, one may find the required meaning in the category of noun usage. Here, it may be suggested that the meanings in C and E are the most adaptable translations for the term *shw-sfhw*. So, one could give it these two following translations:

- 1- «The seven spirits of the god».
- 2- «The seven powers of the god».

It can be inferred that the above two translations are complementary and not contradictory at all, especially if emphasising that the spirit of a god is synonymous or equal to his power, ability and creative force. G provides this sense as well.

⁵ WB 1926: vol.1, 13-15.

⁶ WB 1926: vol.1, 15.

⁷ FAULKNER 1991: 4.

⁸ WB1926: vol. 1, 15.

⁹ LESKO 1982: vol.1, 7.

¹⁰ WILSON 1997: 12- 14; WB 1926: vol.1, 13-15.

¹¹ GARDINER 1957: 470.

¹² FAULKNER 1991: 4.

¹³ WB 1926: vol.1, 13.

¹⁴ GARDINER 1957: 470.

¹⁵ FAULKNER 1991: 4.

¹⁶ LESKO 1982: vol. 1, 7.


¹⁷ WILSON 1997: 12-13.

¹⁸ For more reading about Ax conception in ancient Egypt: ENGLUND, G., «Akh-Une Notion Religieuse dans L' Égypte Pharaonique», 1987.



Who were the *3hw-sfhw* «the seven spirits of the god» in ancient Egyptian religion?

3hw-sfhw occur in the religious texts since the Old Kingdom onwards. They were described as a group of minor deities or even genii and as followers and sustainers of certain gods (Re and Osiris). They represented the magical creative powers of the god and were depicted as useful, profitable, beneficial and advantageous to the god, being like accompanying servants. They were also seen as helpful for the good dead, as will be discussed and proven in detail through different textual evidence below.

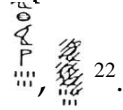
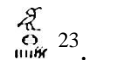
III. WRITING FORMS



 *3hw* «The Spirits», minor gods as a designation of certain demons, almost only from Pyramid Texts (PT)¹⁹, as first occurrence.


 *3hw-sfhw*;  «The Seven Spirits», from M.K.²⁰.

 and  *sfhw* «The Seven Ones», without the term «*3hw*»²¹.

3hw-htpw-sfhw «The Seven Blessed
 Spirits».

 ²²
 ²³.

 and  *3hw-htpw* «The Blessed Spirits»²⁴.

¹⁹ WB 1926: vol.1, 15, also  *3h* is a title for a human personality between *b3* and *k3*; spirit or soul of clarification divine in the human being; spirit as being and as a personality: WB 1926: vol.1, 15.

²⁰ CT 1947: vol.3, 147b; LGG. I: 45; CT 1951: vol.4, 259a.

²¹ CT 1951: vol.4, 258a.

²² CT 1951: vol.4, 259a.

²³ CT 1951: vol.4, 262b.

²⁴ CT 1951: vol.4, 263b.



3hw-sfhw «The Seven Spirits» from N.K²⁶.

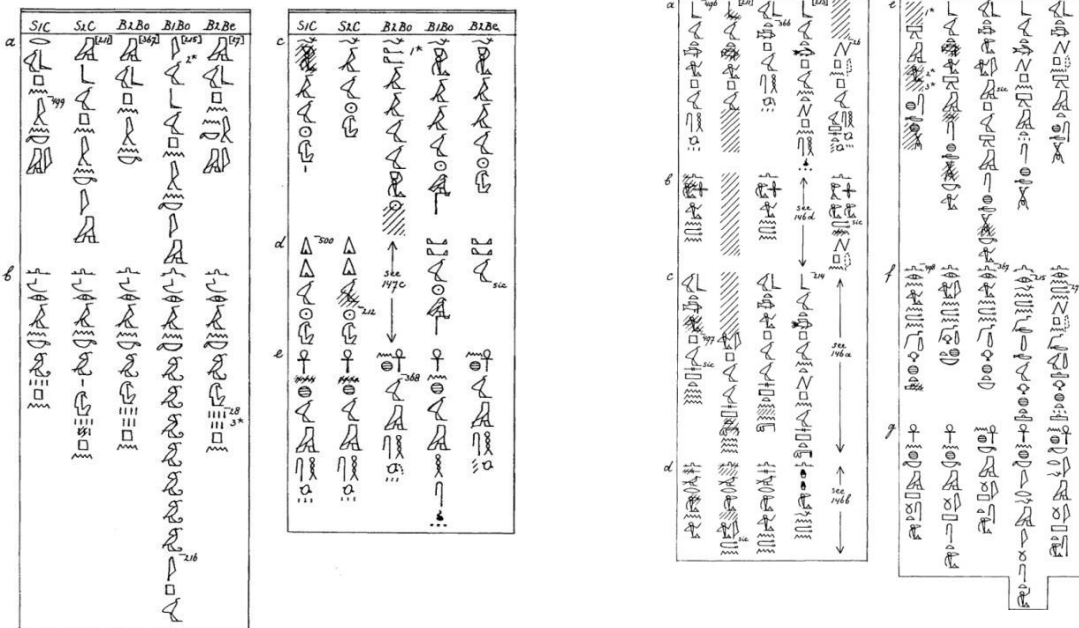
3hw-sfhw «The Seven Spirits» from Saite Period (26th Dyn.)²⁷.

IV. BEGINNING OF APPEARANCE AND CONTINUANCE

The first attestation in religious texts of the terms 3hw-sfhw «The Seven Spirits», 3hw-htpw-sfhw «The Seven Blessed Spirits» and 3hw-htpw «The Blessed Spirits», or even the shortened or abbreviated name for them sfhw «The Seven ones», occur in the Middle Kingdom. They are found especially in the so-called Coffin Texts (CT) of that period and not before this date, and they continue through the following eras until the end of the Late Period. The phrase is mentioned frequently and repeatedly, sometimes with additional words and, of course, in distinguished writing forms, as explained above.

V. TEXTS

1- (M.K). Spells 205²⁸: «Not to Walk Upside down».



²⁵ CT 1954: vol.5, 170g.

²⁶ Urk 1906: vol.5, 41, 11; 42, 13; 43, 5 = NAVILLE 1886: 17; LGG. I 2002: 45.

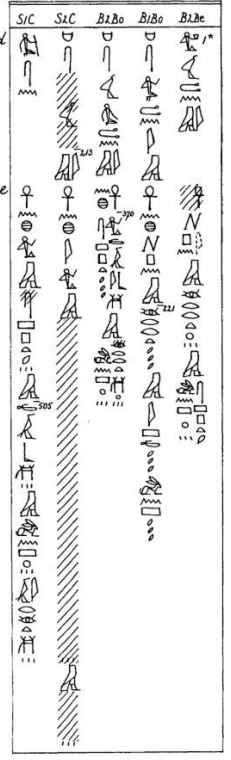
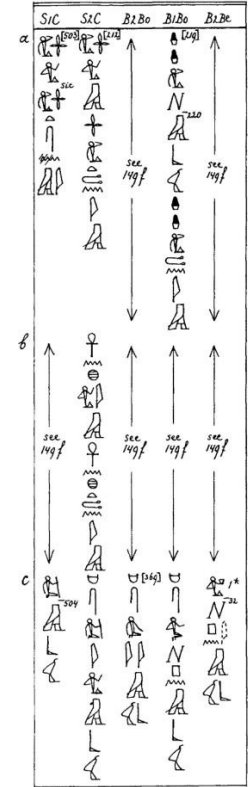
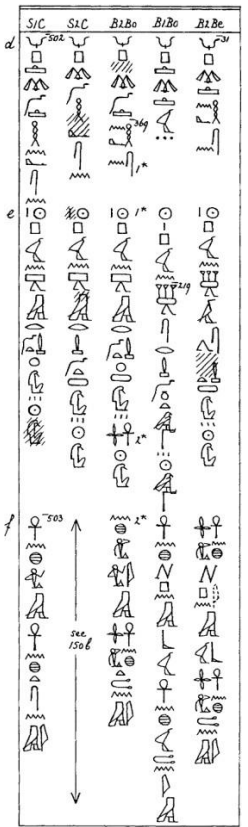
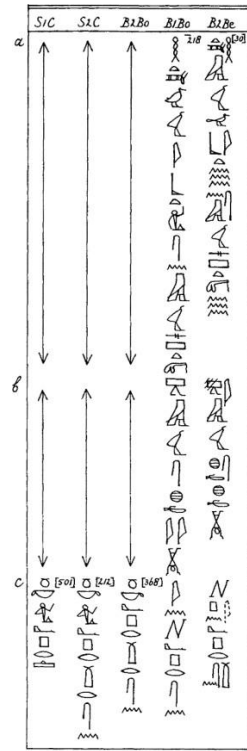
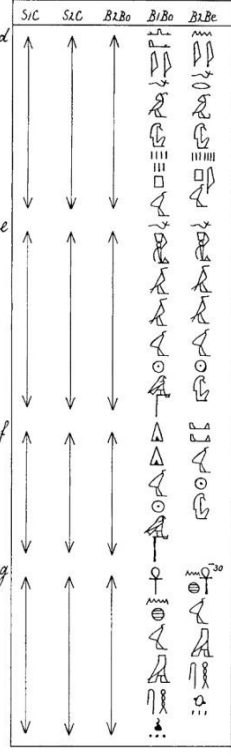
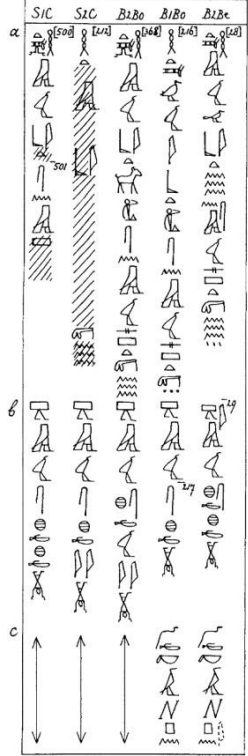
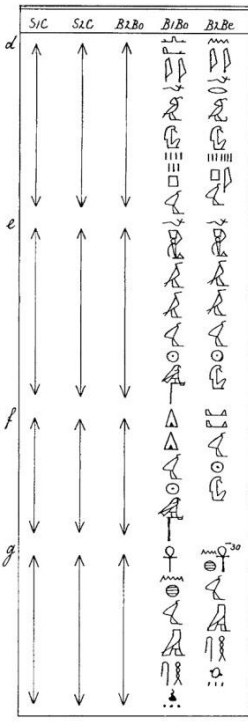
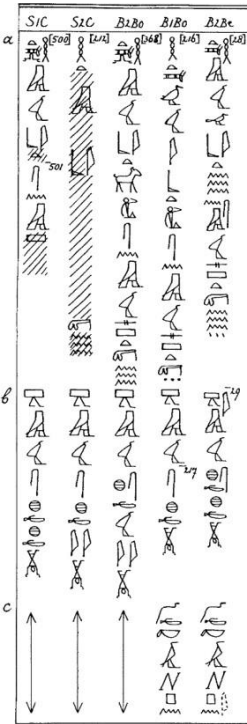
²⁷ VERHOEVEN 1993: 12 sp. 17 = NAVILLE 1886: 17 col. 9, 11; LGG. I: 45.

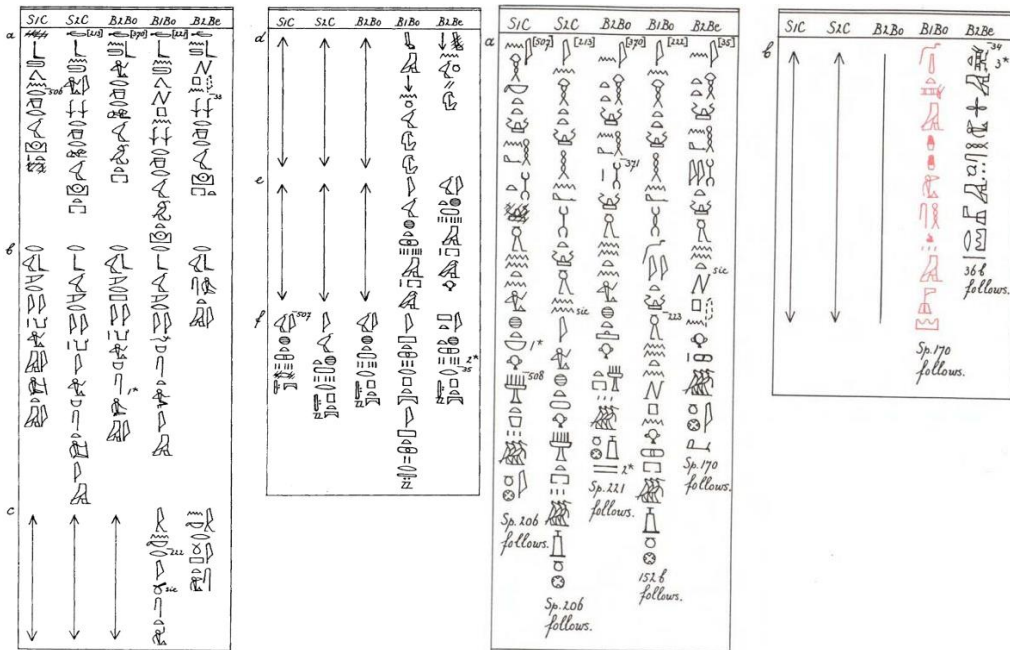
²⁸ CT 1947: vol.3, 146 a-e sp. 205; 147 a-e; 148 a-g; 149 a-f; 150 a-e; 151 a-f; 152 a-b.



THE SEVEN SPIRITS (3hw-sfhw)

IN THE ANCIENT EGYPTIAN RELIGION





*bwt.i pw ḥsw n wnm.i n.tn bwt.i pw wsšt n swr.n.i n.tn bwt.i šmt šhd n ir.n.i n.tn dd-mdw ḥr ḥt ḥnh.k
 irf m išt r bw pn ii.n.k im n m33 n.k 3ḥw-sḥw ipw f3i.w R^c di.w R^c ḥnh.w m ḥsw ḥtm.w ibt.sn m wsšt
 šmi.w šhd
 ink ḥpr r.sn wp dmd.f ḥn^c.sn n hrw pw n šmi r d3d3t R^c ḥnh.i m ḥnt.sn im wnm.i wnm.t.sn im ḥms.im bw
 ḥms.sn im ḥnh.i m šspt m d3bw m wnšw i3rrt
 dbn.i r drw 3ḥt r bw mry k3.i ḥmst ii.k r išt ii.k r išt iw ḥt 7 m Pr-Hr iḥt 3 r pt iḥt 2 r t3in
 Msktt ḥn^c M^cndt innt.n.i ḥt nbt ḥr ḥ3wwt b3w lwnw*

Faeces is my detestation, and I will not eat for you; urine is my detestation, and I will not drink for you; walking upside down is my detestation, and I will on no account perform the recitation for you.

What will you live on at this place which you have come? They will not look at you those **seven spirits** who lift Re up, who show Re, who live on faeces, who quench their thirst with urine, who walk upside down.

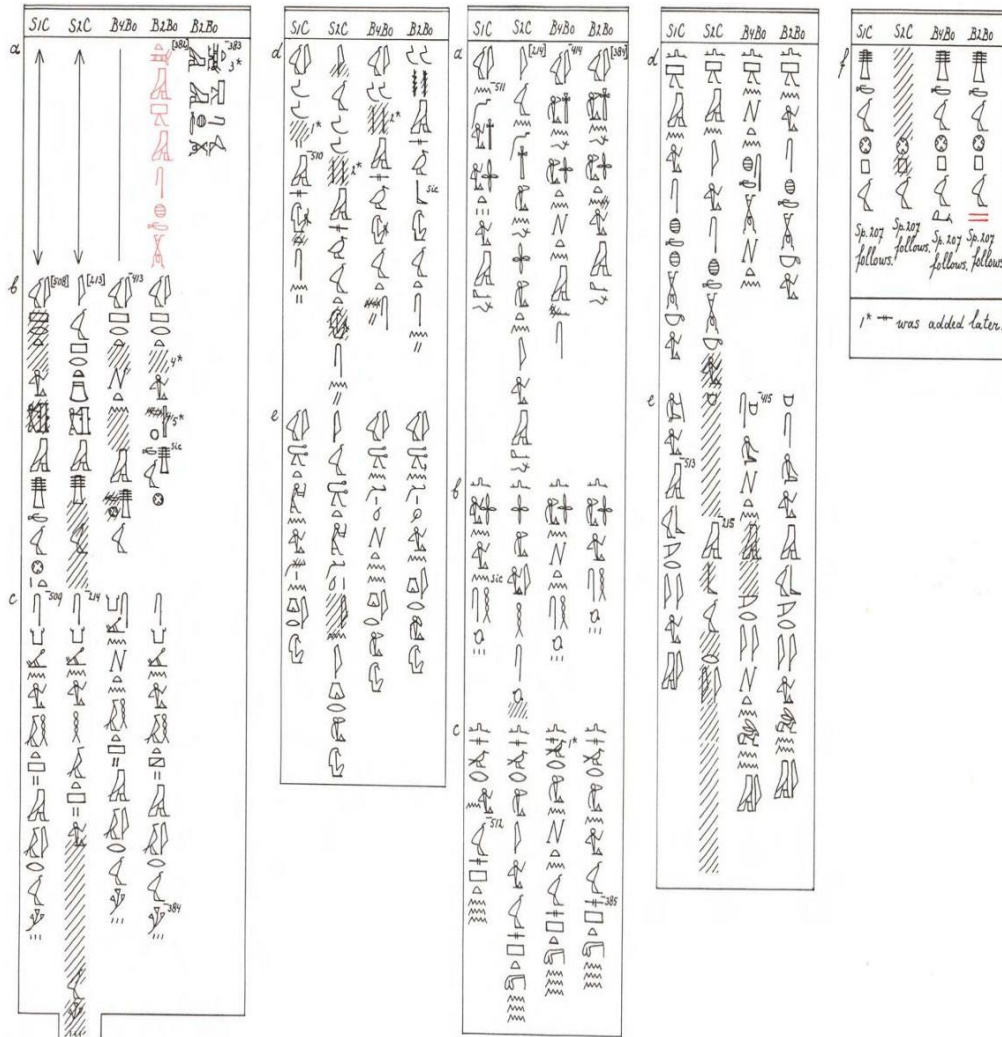
I am one equipped against them, I will sever connection with them on that day of going to the tribunal. I will live on what they live on. I will eat of what they eat of, I will sit in the place where they sit, I will live on cucumbers, figs, *wnšw* and grapes, I will travel around to the limit of the horizon, to the place where my double desires to dwell. What have you come for, what have you come for?

Seven portions are in the House of Horus, three portions are in the sky and two are on earth; it is the Night-bark and the Day-bark which will bring to me all portions from upon the altars of the Souls of On²⁹.

²⁹ FAULKNER 1973: 167-168 sp. 205, n (6-13).

2. (M.K)

Spell 206³⁰: «Not to Walk Upside down»



iw šrt kd m Ddw
sk3.n.i 3łt 2 m i3rw iw m3m3 2 m s3wty.snyiw
it.n.i ns n igr iw nd wnm.t.i m-^c.f
n wnm.n.i hsw n swr.n.i wsšt
n šm.n.i šhd hms.i m bw mry.i wnn im Ddw pw

An obstacle is built in Djedu. I have ploughed two fields of rushes; two dom-palms are their guardians. I have taken away the tongue of the Silent one; I grind my food with it. I will not eat faeces, I will not drink urine, I will not walk upside down, but I will dwell in the place where I desire to be; that is Djedu³¹.

In spells 205 and 206 entitled **Not to Walk Upside down**, one could conclude that the deceased wishes not to eat filth when he is hungry, not drink urine when he is thirsty, and not walk upside down in the realm of the dead as the **seven spirits** do. He wishes to live on cucumber, figs, dom and grapes, and dwell in the place where he

³⁰ CT 1947: vol.3, 153 sp. 206 a-e, 154 a-f.

³¹ FAULKNER 1973: 168 sp. 206.

desires to be in Djedu. Also, for being a virtuous deceased, he deserves to live with the Tribunal of god Re without the punishment of eating and drinking dirty things, and without walking upside down in the netherworld (= lost) because he is a blessed one.

One can find these meanings and more elsewhere in the Coffin Texts of the Middle Kingdom (spell 211), but without mentioning the seven spirits, and also in some spells where they are mentioned (spells 335; 400 and 401), as will be shown below.

Functions and Roles




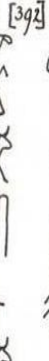



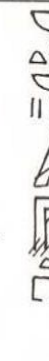
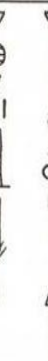



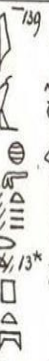

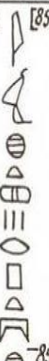





The text of spell 205 gives an important notification that **the seven spirits** are extraordinary creatures, ie. demons, genii or invisible powers (= spirits). They have such powerful strength that they can lift Re or his bark up.

They are his assistants, accompany him all the time and cannot abandon him for a moment or move away from his side at all, because they walk up and down without stopping in order to fulfill their role. That is why they eat excrement and drink urine, for they cannot stop to eat or drink ordinary food and drinks. The blessed dead wishes that these bad things do not happen to him, and that he is not to be obliged to undertake these acts as a punishment in the realm of the dead.

But one can wonder about this point: to whom these things (faeces and urine) which are mentioned with the **seven spirits** belong – themselves or someone else? Here the text is silent! In any case, they eat these horrible things because they are genii, demons or even devils – as is clearly indicated in some of the readings – while human beings hate to eat or drink such dirty things. The blessed dead hope not to live as the **seven spirits** do, but to live on good things from the altars of gods in the netherworld. These meanings can also be found in spell 211, as will be seen below.

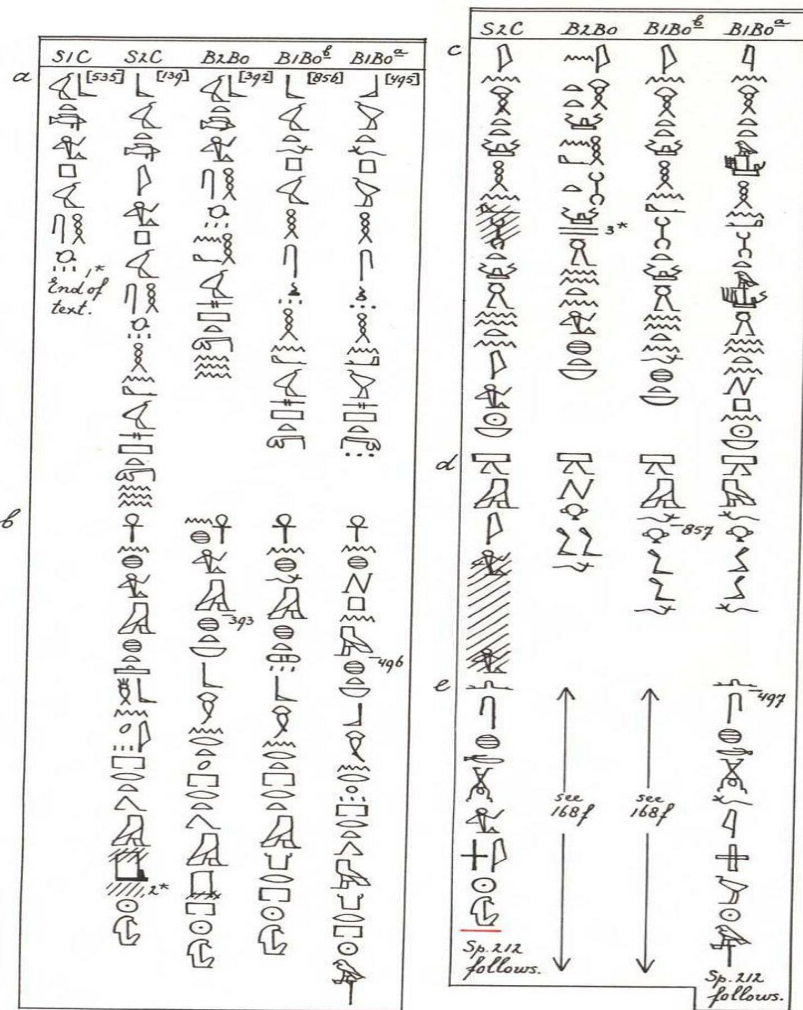
3. (M.K)

Spell 211³²: «Not to Work in the Realm of the Dead».

	S1C	S2C	B2Bo	B1Bo ^b	B1Bo ^a
c	⁵³⁴ 	^[38] 	^[392] 	^[855] 	^[494] 
d					
d		⁷³⁹ 	^[392] 	^[855] 	
e					

see 167d see 167d see 167d see 166d see 166d

³² CT 1947: vol.3, 166 c-d, 167 d-e, 168 a-e, sp. 211.



l'nk ng3w sbtyw
nb ht 5 m hwt-nir
iw ht 3 r pt hr R^c
iw ht 2 r t3 hr Gb
bwt.i pw hsw hn^c wsšt n^h.i m ht nbt bnrt prt m k3r R^c
in Msktt hn^c M^cndt innt n.i r^c-nb šm.i hr rdwy.i n šhd.i imy R^c

I am the bull of the dappled cows, the owner of five portions in the temple; three portions are in the sky with Re, two portions are on earth with Geb.


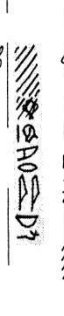
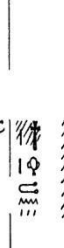
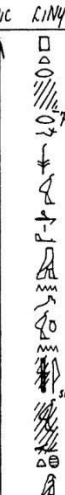


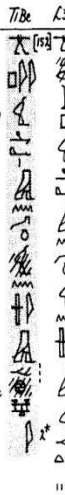
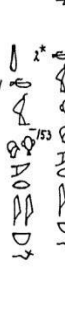

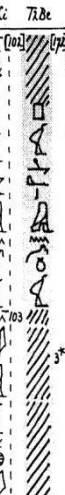
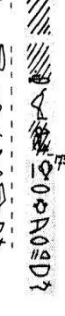
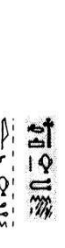
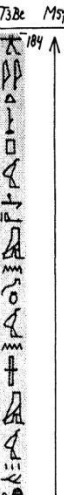



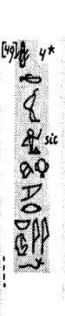
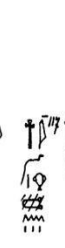


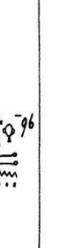



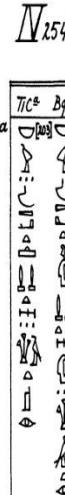
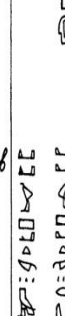
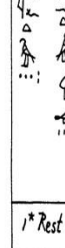
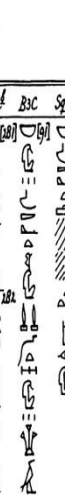
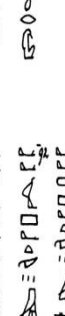
Faeces and urine are my detestation; I live on the sweet things which are issued from the shrine of Re. It is the Night-bark and the Day-bark which come to me daily; I walk on my feet, I am not upside-down in the presence of Re^{33 34}.

³³ FAULKNER 1973: vol.1, 169 sp. 211.

³⁴ For more texts of CT about not to eat faeces, not to drink urine and not to walk upside down in the realm of the dead, see also: 170 sp. 213; 171 sp. 214; 171-72 sp. 215; 171-72 sp. 216; 172-73 sp. 217; 173 sp. 218; 173 sp. 220; 174-76 sp. 224.







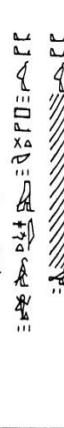







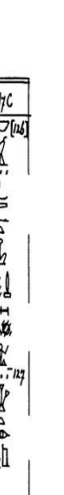
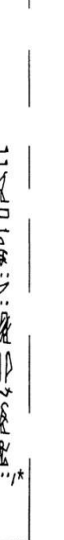





4.(M.K)

Spell 335³⁵: «GOING OUT INTO THE DAY FROM THE REALM OF THE DEAD».

M5yC	M1C	L1N4	T3Be	L3C1	T3Be	T3Be	M5yC	M1N4	B1H2C
<p>a</p>  <p>b</p>  <p>c</p> 	<p>a</p>  <p>b</p>  <p>c</p> 	<p>a</p>  <p>b</p>  <p>c</p> 	<p>a</p>  <p>b</p>  <p>c</p> 	<p>a</p>  <p>b</p>  <p>c</p> 	<p>a</p>  <p>b</p>  <p>c</p> 	<p>a</p>  <p>b</p>  <p>c</p> 	<p>a</p>  <p>b</p>  <p>c</p> 	<p>a</p>  <p>b</p>  <p>c</p> 	<p>a</p>  <p>b</p>  <p>c</p> 

IV 254

Spell 335

T1C*	B1yC	B3C	S1yC	T1C	B1P	B3C	B1y	B1yC	S1yC	S1yC	M1C	M1C	M1C
<p>a</p>  <p>b</p> 	<p>a</p>  <p>b</p> 	<p>a</p>  <p>b</p> 	<p>a</p>  <p>b</p> 	<p>a</p>  <p>b</p> 	<p>a</p>  <p>b</p> 	<p>a</p>  <p>b</p> 	<p>a</p>  <p>b</p> 	<p>a</p>  <p>b</p> 	<p>a</p>  <p>b</p> 	<p>a</p>  <p>b</p> 	<p>a</p> <p>b</p>	<p>a</p> <p>b</p>	<p>a</p> <p>b</p>

* Rest of line (= 7/10 l.) empty.

³⁵ CT 1951: vol.4, 253 c sp. 335; 254 a-b; 255 a-b; 256 a-c; 257 a-c; 258 a-b; 259 a-c; 260 a-c; 261 a-d; 262 a-b; 263 a-c; 264 a-c; 265 a-e; 266 a-e; 267 a-e; 268 a-d; 269 a-i; 270 a-c; 271 a-g; 272 a-c.

MsvC	MIC	LINV	TiDe	L3Li	TiDe	T3De	MsvC	MINV	BHIDr
[33]	[32]	[31]	[30]	[29]	[28]	[27]	[26]	[25]	[24]
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

MsvC	MIC	LINV	TiDe	L3Li	TiDe	T3De	MsvC	MINV	BHIDr
[33]	[32]	[31]	[30]	[29]	[28]	[27]	[26]	[25]	[24]
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

1* Traces: 7777.
 2* Arranged thus:
 3* Arranged thus:
 4* 261c precedes.



THE SEVEN SPIRITS (Arw-sfxw)

IN THE ANCIENT EGYPTIAN RELIGION

IV.162 *Spell 335*

M57C	MIC	L1NY	TiBe	L3Li	TiBe	TiBe	M57C	MINY	BH1Be
↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓

1* 262a precedes.
 2* End of line, see the plan on p. 272.
 3* 1 now lost, preserved in copy Passalacqua.
 4* Publication: *EGP*.
 5* *EGP*, probably.
 6* 262a precedes.

IV.162 *Spell 335*

TiC*	B4C*	B3C	Sy4Sy	TiC*	B1P	B4	B4C*	SyC	SyC	M5C	M5C	M5C
↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓

1* See, not - but → or ←.
 2* like ←, probably a corruption of →.
 3* The lacuna is too long for 262a. Perhaps the last 4 squares were black and contained the text of 262a.
 4* End of l. and side.
 5* Beautiful.

M57C	MIC	L1NY	TiBe	L3Li	TiBe	TiBe	M57C	MINY	BH1Be
↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓

1* 265b precedes.
 2* Very doubtful, possibly 44?
 3* Trace 44/1.
 4* Lacau's copy gives III.
 5* 265c precedes.

IV.164 *Spell 335*

TiC*	B4C*	B3C	Sy4Sy	TiC*	B1P	B4	B4C*	SyC	SyC	M5C	M5C	M5C
↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓

1* o small, added later?
 2* Possibly room for 44.

71c*	29c†	23c	59c‡	71c	217	214	29c*	59c	59c	MIC	MIC	M7c
↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑

1* See the plan on p. 171. 2* A corruption of 23. 3* 268 follows. 4* See plan, p. 171. 5* Or etc?

71c*	29c†	23c	59c‡	71c	217	214	29c*	59c	59c	MIC	MIC	M7c	M7c
↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑

1* See the plan on p. 171. 2* A corruption of 23. 3* 268 follows. 4* See plan, p. 171. 5* Or etc?

MIC	LIN4	TIBc	L36i	TIBc	T3Bc	M57c	MIN4	BH1Bc
↑	↑	↑	↑	↑	↑	↑	↑	↑
↑	↑	↑	↑	↑	↑	↑	↑	↑
↑	↑	↑	↑	↑	↑	↑	↑	↑
↑	↑	↑	↑	↑	↑	↑	↑	↑

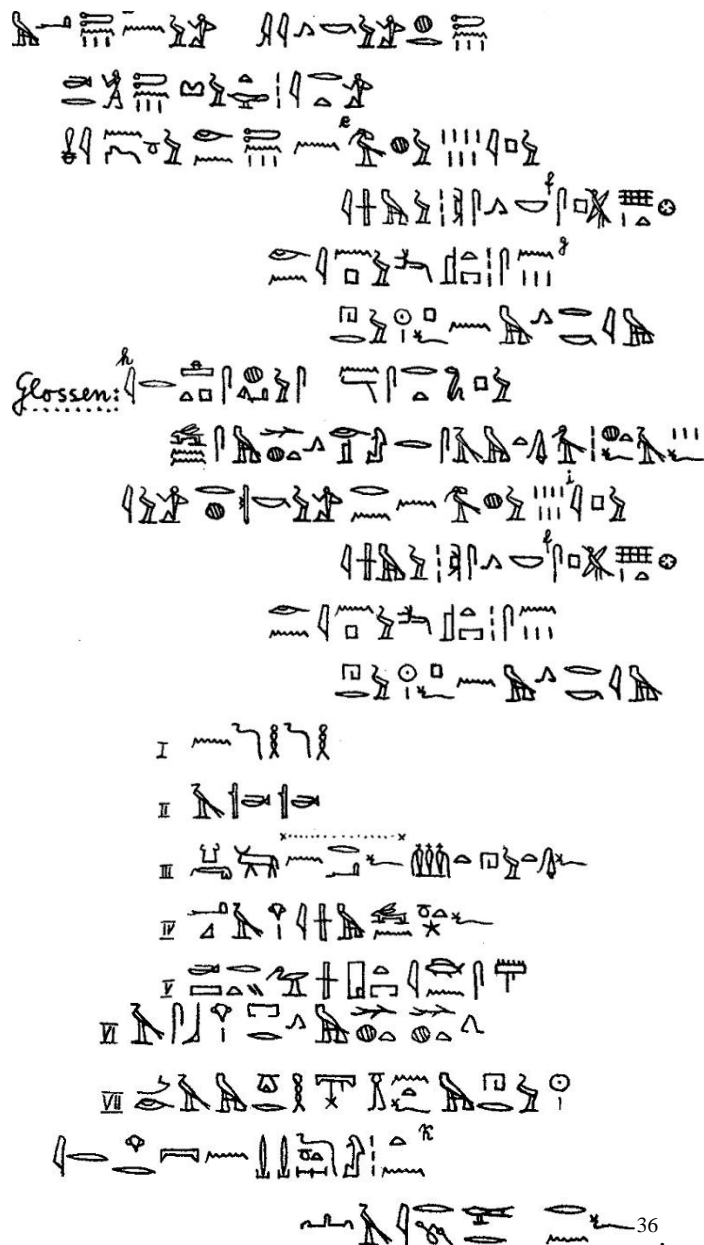
1* 270c precedes. 2* Or 244. 3* End of l. the entire lacuna of l. 138 seems to be needed for the name 23 etc. 4* 7* see p. 171. 5* 171d follows.

BIP	LIN4	MIN4	BH1Bc
↑	↑	↑	↑
↑	↑	↑	↑
↑	↑	↑	↑
↑	↑	↑	↑

1* 270c precedes. 2* Or 244. 3* End of l. the entire lacuna of l. 138 seems to be needed for the name 23 etc. 4* 7* see p. 171. 5* 171d follows.

M57c	MIC	LIN4	TIBc	L36i	TIBc	T3Bc	M57c	MIN4	BH1Bc
↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
↑	↑	↑	↑	↑	↑	↑	↑	↑	↑

1* 270c precedes. 2* Or 244. 3* End of l. the entire lacuna of l. 138 seems to be needed for the name 23 etc. 4* 7* see p. 171. 5* 171d follows.



*ind-hr.in nbw m3't d3d3t h3t Wsir (r)ddw s'c t m isftyw imyw-ht Htp.s hw.s mk.in ii.k hr.in dr.in dwtirt mi
nw ir.n.in n 3hw-sflhw ipw imyw sms.w nb-sp3wt ir.n Inpw st.sn hrw pf nmi rk r Htp.s hw.s Nsrt pw
wnn.s m-ht Wsir r s3m b3w hftyw.f iw.i rh.kwy rn(w) n 3hw-sflhw ipw imyw smsw nb- sp3wt ir.n
Inpw st.sn hrw pf nmi rk im ir hry n d3d3t tn N-3r-wr rn.f Ndhdh 3kdkd K3-n(rdi).f-hnt- hwt.f Km-hr-imy
wnwt.f Dšrt-hnty-hwt-insy 3sb-hr-pri-m-ht-hti M33-m-grh-int.f-m-hrw
ir hry n d3d3t tn N 3r-wr rn.f*

Hail to you, lords of truth, the tribunal which is behind Osiris which put terrors into those who are false when 'those whom it protects are at rest.

See, I have come to you so that you may get rid of the evil which is on me, just as you did for those **Seven Spirits** who follow after the Lord of the Nomes, when Anubis

³⁶ *Urk* 1906: vol. 5, 39-41, a text from M.K.

prepared their seats on that day of 'come thence' as for 'those whom it protected are at rest' it means 'the fiery serpent'³⁷.

It follows after Osiris to burn up the powers of his foes. I know the names of the **Seven Spirits** who are in the following of the Lord of the Nome's, whose seats Anubis made on that day of come thence! As for the chief of this company, his name is '**The Great One is not driven away**'.

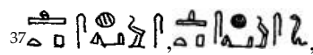

(The names of the seven spirits are): *Ndhdh*, *3kdkd*, «**Bull who was not put to his burning**», «**Black-Faced who is in his hour**», «**Bloody one who is Pre-eminent in the Mansion of Red Linen**», «**Radiant-Face who comes out after having turned back**», «**He who sees in the night what he shall bring by day**»³⁸.


He serves as the chief of this group, where his name is «**The Great One who is not driven away**»³⁹.

Functions and Roles

This long spell has proved that the seven spirits are a group of powerful souls depicted as the followers of Osiris. They always accompany him and they are described together as the tribunal which is behind Osiris. They are the lords of truth and they punish sinners, evil-doers and bad people by putting terror into them.

The text mentions all of their names (7 personalities, in addition to the 8th personality as their chief). The deceased must know their names well – as will be clearly mentioned in spells 400 and 401 – keeping them in his heart, and recalling the names from his mind. He shall need to call each member by his own name when he requires help in the Hall of Maat (Justice) for his judgment and justification in the presence of the god Osiris, lord of eternity and ruler of everlastingness.

³⁷  *Htp.s-hw.s* «She is the merciful and the protector one» as a name for a goddess: 1926: vol.3, 194;  «She is satisfied, when she protects» a title for the goddesses Isis, Skhmet or Hathor from M.K. CT, N.K. BD and temples of Greco-Roman Period Dendera, Philae, Edfu & Tod: LGG. V 2002: 579

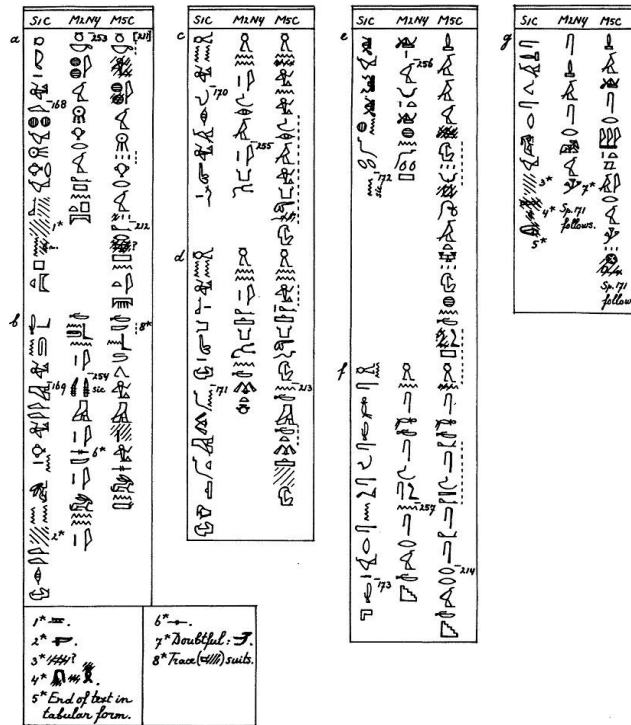
She is also titled in this text as  *Nsrt pw* «this fiery Serpent» who burns the enemies of Osiris, and *Irt pw nt Ra* «this eye of Re» in spell 17 Book of the Dead from New kingdom. Thus, she is one of Re's daughters, who are violent and aggressive goddesses, the protectors of the universal solar being and its manifestations of their father Re, in order to revenge him and destroy his foes to keep the cosmos in balance.

³⁸ FAULKNER 1973: vol.1, 264 sp. 335, part I-268 n(49-61).

³⁹ These last two bold underlined phrases in transliteration and translation were found in the copy of spell 335 in: *Urk* 1906:vol.5, 41. I prefer to gather them here in one text so as to not miss any important small details in this valuable text about «**The Seven Spirits**» from M.K.

5. (M.K)

Spell 400⁴⁰: «Spell for [Joining (?)] The Ferry-Boat to the Realm of the Dead, to the Place [Where Osiris Is (?)]»



ihw-sfhw ipw mhntyw nw pt M33-h3.f mi inn n.i mhnt tw m rn.s K3yt 3h.s n K3yt sbi.t(w) m dw...inirw dr nir in wpwt ii.t(w) r.i ksn.tw Msktt M^cndt tw3.f hr.i r[m]n.f hr.i R^c m htp hms.i m hr-ib.f wd^c b3 imy 3ht d3.n.i ^c.i hr^c n Hr ibwt St ink ihhw hry ^cr šnyt dbn.n.i m.i st wn.n.i inn.n.i m33.i K3 inn n.i ^c K3 m dmdw Hnm d3.w wp w3wt.i hnd.ty-š inn.s šdi.s m3s.n.s r rwdw d3i.sr Sht-Brw

O you **Seven Spirits**, the ferrymen spirits of the sky; O *M3h3f*, come and bring me the ferry-boat in its name of *k3yt*-boat and its power of *k3yt*-boat which is sent from the mountain<

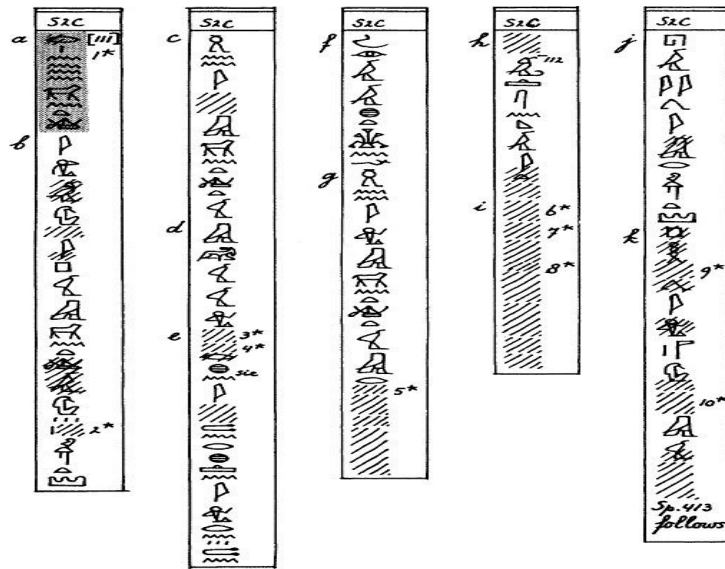
O you gods beside (?) the god, a message have come for me; The Night-bark and the Day-bark are built, flee leans on me and relies on me, and Re is at peace. I sit beside him, and the soul which is in the horizon gives judgment; I have extended my arm over the arm of Horus and the sandal of Seth. I am the twilight which is over the approach of the storm; I travel around<May (something) be brought to me that I may see the bull-snake, may the warrant of the bull-snake bring to me the crowd of Khnum. Those who ferry over are those who open my paths (to) the lake of shanks. She brings and takes away, for she has knelt at the stairway, she crosses over to the Field of Rushes⁴¹.

⁴⁰CT 1954: vol.5, 170 g; 171 a-f; 172 a-g; 173 a-g sp. 400.

⁴¹ FAULKNER 1977: vol. 2, 43-44 sp. 400, 45, n(17-35).

6. (M.K)

Spell 401⁴²: «Spell for A Ferry-Boat».



i 3hw-sfxw ipw mhntyw [nw] Imnt inn n.i mhnt tw m iwry.i [hr-ntt] rh.n.i in rh.n.i rrw M3-3ht-n.finn n.i mhnt tw [m rn.s K3yt m] 3h.s n K3yt [...] h3i.i im r Imnt s3h.i nir [imy] [...]

O you [Seven (?)] Spirits, the ferrymen spirits [of] the West, bring me the ferry-boat when I call out, [because (?)] I know you and I know your names.

O M3-3ht-n.f, bring me the ferry-boat in [its name of K3yt-boat and in] its power of K3yt-boat [...]. I will go down in it to the West, I will reach the god who is in [...].

Functions and Roles

In spells 400 and 401, one can read about the role of the seven spirits as ferrymen of the sky or ferrymen-spirits of the west. The dead must know their names as they have been read in spell 355. When the deceased calls them by their names, they will come and bring to him the ferry-boat to cross the sky on his journey to the west, where he can join the celestial journey of the god Re in his divine M^cndt and Msktt boats day and night, in order to be one of his companions. Then, he shall descend in the ferry-boat to the underworld, to join Osiris who shall judge him as a blessed dead who deserves to live in the Field of Rushes eternally.

These two texts have undoubtedly proven that **the seven spirits** were assistants and followers of Re and Osiris. They help the good dead in crossing all the hazards and obstacles through the journey of eternity in the west to safely reach the final destination and arrive at the eternal abode in paradise, enjoying all good things in a luxurious stay and an eternal life.

⁴²CT 1954: vol.5, 174 b-k sp. 401.

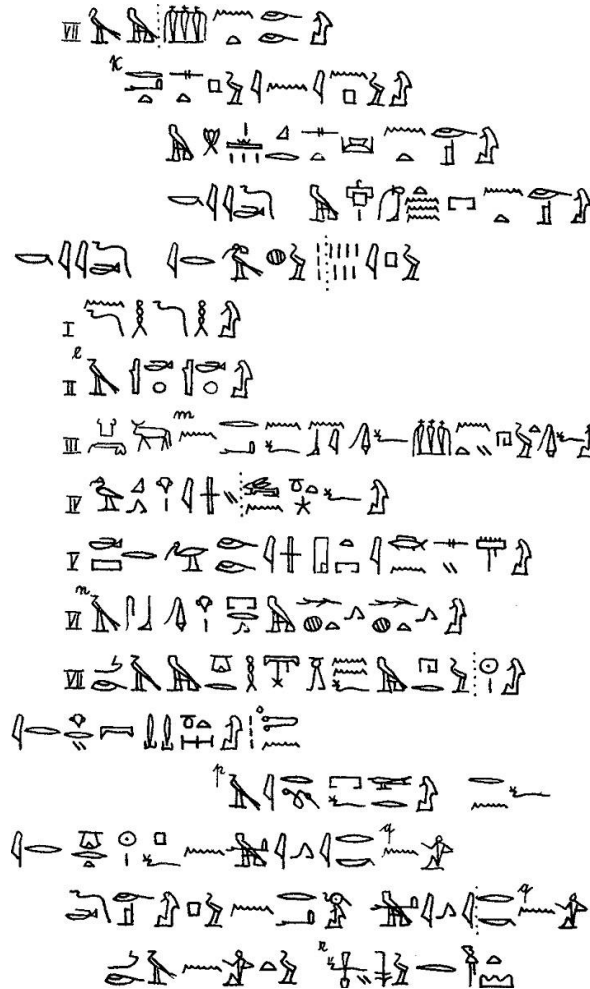
⁴³FAULKNER 1977: Vol. 2, 45 sp. 401, 46, n(1-8).

7. (N.K).

This is spell 17 from Book of the Dead of the New Kingdom [FIGURES 1-4]. It has been found inscribed on a number of sarcophagi from the New Kingdom:

- 1- Cairo 28023, sarcophagus of *Hr-htp*.
- 2- Cairo 28034, sarcophagus of *S3t-B3stt*.
- 3- Cairo 28035, sarcophagus of *Hr*.
- 3- Berlin 9, sarcophagus of *Mniw-htp*⁴⁴.

It is completely transmitted from the Coffin Texts of the Middle Kingdom(= CT IV, spell335, 253c-272a-c).



*ind hr.in nbw m3't d3d3t h3t Wsir ddw s'c m isftyw imyw-ht Htp.s-hw.s mk.in wi ii.kwy hr.in dr.in dwt
nbwt irt [m].i nw ir.n.in n 3hw-sfw ipw imyw šms.w nb-sp3wt ir.n lnpw swt.sn hrw pf nmi rkim ptr
rf st ir nn n nirw nbw m3't Stḥ pw hn' l'sds nb imntt*

⁴⁴ SETHE & SCHÄFER 1916: 1; 41-49 M.K.; 41-44 N.K.; 44-46 Late Period.

See also: LEPSIUS, R., *Das Totenbuch der Ägypter nach den Hieroglyphischen Papyrus in Turin*, Leipzig 1842, 1969; NAVILLE, E., *Das aegyptische Totenbuch Der XVIII. Bis XX. Dynastie Aus Verschiedenen Urkunden*, 3 Bde, Erster Band, Text und Vignetten, Berlin, 1886, ss. xxiv-xxvi & pls. xxvii-xxx; Zweiter Band, Varianten, Kapitel 17, ss. 29-74, for *3hw-sfw*, ss. 53-57. For more information and details about this spell, see: SAFAA 'ABDEL MONEIM 'IBRAHIM SAYED 2016.

ir d3dt h3t Wsir (f)msty H3pi Dw3-mwt.f Kbh-snw.f n3 pw nty m-s3 p3 hps m pt mht ir ddw sct m isftyw imyw-ht Htp.s-shw.s iw.w Htp.s-shw.s Sbk pw imy mw ir Htp.s-shw.s lrt pw nt R^c ky dd Nsrt pw wnn.s m-ht Wsir hr s3m b3w hftyw.f
ir grt dwt nbwt irt.i ir.in mk nbw nhh dr h3.f m ht nt mwt.f ir grt 3hw-sfhw ipw I: (f)msty 11: H3pi111: Dw3-mwt.f IV: Kbh-snw.f V: M33-n-it.f VI: Hry-b3k.f VII: Hr-m-hnty-irty rdit st pw in lnpw m s3w krst-ibt nt Wsir ky dd m s3w w⁶bt-pr nt Wsir ky dd ir 3hw-sfhw1: Ndhdh 11: 3kdkd 111: K3-n-rdi.n.f nby.f-hnty-hwt.f IV: k-hr-imy-wnwt.f V: Dst-irty-imy hwt-insy VI: 3sb-hr-pri-m-ht-hti VII: M33-m-grh inn.f m hrw
ir hry d3dt tn (N) 3r-pri.f-wr rn.f ir grt hrw pf n mi ir.k n.i dd wsir pw n R^c [n] mi ir.k n.im33.n.i.tw (m) hsfw sw r lmnt

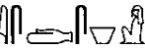

Hail to you, lords of truth, and the tribunal that is behind Osiris which puts terrors into those who are false when «those whom it protects are at rest».

See, I have come to you so that you may get rid of the evil which is on me, just as you did for those **Seven Spirits** who follow the «Lord of the Nome's (= Osiris)», when Anubis prepared their seats on that day of «come thence» there.

What does it mean? These gods, lords of truth, they are Setekh (Seth) and Isds⁴⁵, lord of the west.

The tribunal that is behind Osiris: Imsti, Hapi, Duamutef and Kebehsenuf who are behind the Constellation of the Great Bear in the northern sky. They put terrors into those who are false. They who are behind «those whom it protected are at rest» come, when «those whom it protected are at rest». It is Sobek who exists in water and was made by «those whom it protected are at rest». It is the eye of Re and in another speech it is the fiery serpent which exists after Osiris to burn up the powers of his foes.

«You may get rid of the evil which is on me» means to protect since man descends from the body of his mother, for they are the lords of eternity, where each has a function of these **Seven Spirits**; **I: Imsti**, **II: Hapi**, **III: Duamutef**, **IV: Kebehsenuf**, **V: «who sees his father»**, **VI: «who holds his tree»**, or «**who is beneath his tree»**, **VII: «Horus, whose face has two eyes»** or «**Horus, who has two eyes in his face»**. Protection is executed by Anubis, guarding the burial mound (tomb) of Osiris, and in another speech guarding the purification-house of Osiris. As for the **Seven Spirits**, **I: Ndhdh**, **II: 3kdkd**, **III: «Bull who was not put to his burning»**, **IV: «Black-Faced who is in his hour»**, **V: «Bloody one who is Pre-eminent in the Mansion of Red Linen»**, **VI: «Radiant-Face who comes out after having turned back»**, **VII: «He who sees in the night what he shall bring by day»** he serves as the chief of this group, where his name is «**The Great One who is not driven away»**. This Osiris (=deceased) says to Re: coming which you have done to me, I may see you approaching near him in the west.

⁴⁵  *Isds*, a title for the Ibis bird! by, the sacred symbol of god Thoth or for Thoth himself from Middle Kingdom, and continued in New Kingdom, Saite, Late and Greco-Roman periods. It seems to be equaled or identified in Late Period with  *Isdn* «*One who Listens carefully, as a judge?*» a title for Thoth from New Kingdom, which continued in the Saite, Late and Greco-Roman periods LGG.I 2002: 558- 61. *Isdn*, *Istn*, uncommon name form for the god Thoth from the end of N.K. and Greco.-Roman. Period; *Isds* also as a name or title for Anubis, Thoth and other gods from *M.k; WB* 1926: vol.1, 133-134.

Functions and Roles

From the *N.K* religious texts onwards, one can notice a new reading of **the seven spirits** in the Book of the Dead (BD). In spell 17 from BD, this is the first time the texts mention the so-called 'Four Children (Sons) of Horus': Imsti, Hapi, Duamutef and Kebehsenuf as the tribunal which is behind Osiris instead of the **seven spirits** in the Coffin Texts (*CT*) of *M.K*.

Not only that, but the texts of the *N.K*, the Saite Period (26th Dynasty) and the Late Period, as presented below, place the «Four Children of Horus» as members of the **seven spirits** group; they form the first four, in addition to three newly named figures, except in the text of the Late Period. They are completely different from the **seven spirits** whose names appear in the *CT*.

In the text of spell 17 from BD, one can read that the Four Sons of Horus are the tribunal behind the constellation of the Great Bear in the northern sky. Also, they put terror into sinners, evil-doers and the false or bad dead, and they are protectors as the lords of eternity. They have, in addition, been given functions or appointed by *lnpw* (Anubis) as guards for the tomb of Osiris and his place of embalmment. Similarly, the coffin texts of the *M.K* mention that Anubis is the one who has set their places or has given them their functions (see above: text 335).

These previous roles and functions are mentioned in spell 17 of the BD, with the new group names of the *N.K*, rather than the old group names of the seven spirits in the *CT* of the *M.K*.

Hail to you (O) gods, lords of truth, (and) the tribunal which is behind Osiris, which puts terrors into those who are false, and follows when «those whom it protected are at rest».

You behold, I have come to you, (that) you may remove all evil which belongs to me, like what you have done for these **Seven Spirits** who accompany their lord *Sip*⁴⁷. Anubis prepared their seat on that day of coming which you have done to us there, what does it mean? Concerning these gods, lords of truth, it is Thoth and «Isdes» lord of the west.

Concerning the tribunal which is behind Osiris: Imsti, Hapi, Duamutef and Kebehsen[uef]. These [...] reach that which is behind the Great Bear-constellation in the northern sky. Concerning putting terrors [...] those who are false, [who are following after] «those whom it protected are at rest». [It is] Sobek [who exists] in water. Concerning «those whom it protected are at rest», it is the eye [...]. It is the flame [...]...[...]. Osiris to burn up [...] his foes.

Concerning all evil which belongs to me, he shall remove with lords of [...] (since) he descended from the body of his mother. Concerning these **Seven Spirits; I: Imsti, II: Hapi, III: Duamutef, IV: Kebehsenuef, V: «who sees [his father]», VI: [...], VII: «Horus, whose face has two eyes»**. They are performing as guards of the burial mound (tomb) of Osiris, and in another speech, as guards of the embalmment-place of Osiris. Concerning these **Seven Spirits; I: *Ndhdh*, II: *3kdkd*, III: «Bull who was not put to his burning», IV: «Black-Faced who is in his hour», V: «Bloody one who is Pre-eminent in the Mansion of Red Linen», VI: «Radiant-Face who comes out after having turned back», VII: «He who sees in the night what he shall bring by day»**. Concerning the chief of this group «**One who is not driven away, his great for (of / with) his father**», and in another speech, «**The Great One**» is his name.





Concerning that day of coming, Osiris (=dead) says to Re: coming which you have done, he may see Re approaching in the west.

Functions and Roles

In this text, the deceased hope to be one of the Four Sons of Horus (Lords of truth) in order to follow Horus with them, and to be among the beloved of father (Horus). Osiris is their lord, and they accompany him as the **seven spirits**.

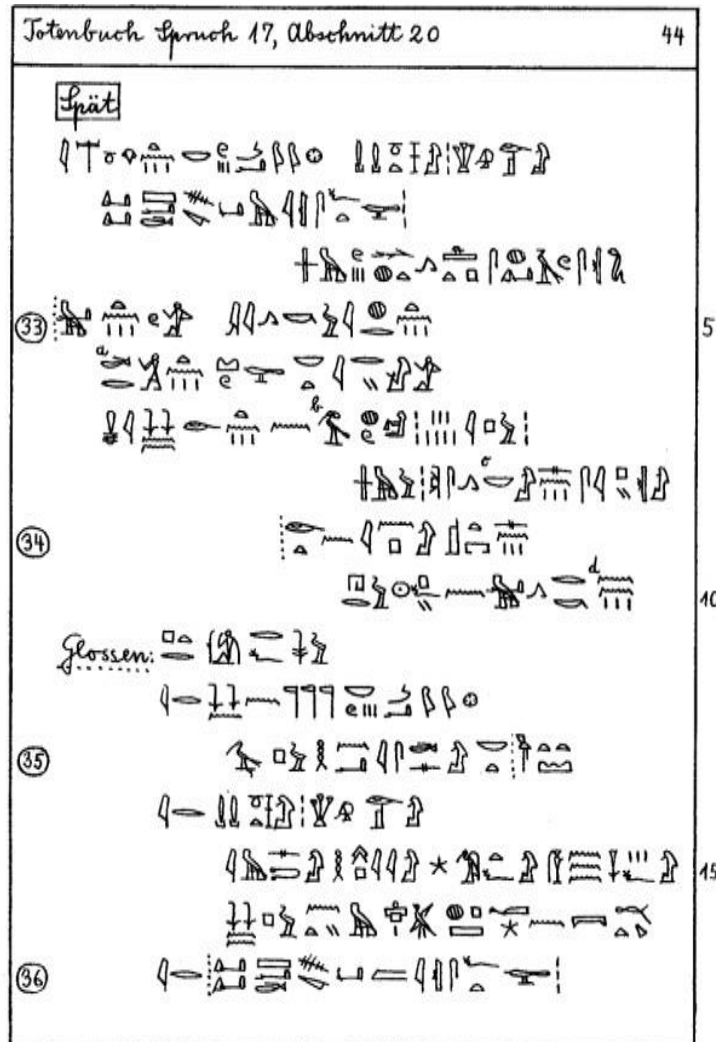
All the previous functions and roles which were mentioned in spell 17 of the BD are repeated here precisely without changes.

In the texts of the *N.K* and the Saite Period, one can observe a significant note; this new group of **seven spirits** is mentioned alongside the *CT* old names in the same text. However, the latter are mentioned after the new group names and the writer separates the new and the old group names with a repeated phrase: *ky dd* «Another speech» or *ky dd ir 3hw-sfhw ipw*

⁴⁷ *Sip*  «One who inspects»;  *Sip-3* "The Great Inspector» a title for Osiris or Thoth from Saite Period;  *Sipy-sp3wt-n-shmw.f* «Who inspects the nomes for his images» a title for Osiris in Edfu E.I 1984: 170, 2 and  *Sip-sp3wt-n-hprw.f* «Who inspects the nomes for his manifestations» a title for Sokar-Osiris in Edfu E.I 1984: 87, 16 from Greco-Roman Period; *LGG* 2002: vol.4, 169-171; *WB* 1926: vol.4, 35-36; *WILSON* 1997: 798-99; *FAULKNER* 1991: 212.

«Another speech, concerning (these) **seven spirits**». This has not been put into these texts by accident but the writer has intentionally distinguished, from time to time, between the new and old names of the **seven spirits**.

VI. (LATE PERIOD)⁴⁸.



⁴⁸ *Urk* 1906: vol.5, 44-46, A text from Late Period.

ir gr (dr) dww nb(w) irt.f m-^c nbw nhh dr h3.f m ht n mwt.f ir gr 3hw-sfhw ipw I: lmsi(y) II: H3pi III: Dw3-mwt.f IV: Kbh-snw.f V: M3-it.f VI: Hr-b3k.f VII: Hr-ht-n -irty rdit.sn lnpw m s3w n krs(t)-i3t nt Wsir s3h.s m-s3 w^cbt nt Wsir s3h.s ir 3hw-sfhw ipw I: Ndhdh II: kdkd III: K3-nn-redit.n.f-nbyt-htnt-hh.f IV: k-hr-imy-wnwt.f V: D3rt-irty imy-ht hwt-insy VI: 3sb-hr-pri-m-htht VII: M33-m-grh inn.n.f m hrw ir d3d3t tn N 3ri wr.f n it.f R^c ir hrw pfy nm^c ir.k n.n dd in wsir pw n R^c mi r.k m33 wi hsf sw R^c mfmntt

Hail to you (O) gods, lords of truth, (and) the tribunal which are behind Osiris, which puts terrors into those who are false, which follow «those whom it protected are at rest».

You behold, I have come to you, (that) you may remove all evil which belongs to me, like this you have done for these **Seven Spirits** who accompany their lord *Sipy*. Anubis prepared their seat (on) that day of coming which you have done to us, what does it mean? Concerning these gods, lords of truth, it is Thoth and «Isdes» lord of the west.

Concerning the tribunal which is behind Osiris: Imsti, Hapi, Duamutef and Kebehsen[uef]. They are these, who are behind the Great Bear-constellation in the northern sky. Concerning putting terrors into those who are false, they are who are following «those whom it protected are at rest». It is Sobek who exists in water. Concerning «those whom it protected are at rest», it is the eye of Re. She reaches, it is the fiery serpent which follows Osiris to burn up the powers of his foes.

Concerning all evils which are belonging to me, he shall remove them with lords of eternity since descending from the body of his mother. Concerning these **Seven Spirits**; **I: Imsti, II: Hapi, III: Duamutef, IV: Kebehsenuef, V: «Who sees his father», VI: «Who is beneath his tree», VII: «Horus, whose face without two eyes = Horus, The eyeless».** Anubis has placed them as guards of the burial mound (tomb) of Osiris, (and) come as guards of the embalmment-place of Osiris. Concerning these **Seven Spirits, I: Ndhdh, II: kdkd, III: «Bull who was not put to his burning», IV: «Black-Faced who is in his hour», V: «Bloody one who is Pre-eminent in the Mansion of Red Linen», VI: «Radiant-Face who comes out after having turned back», VII: «He who sees in the night what he shall bring by day».**

Concerning this tribunal, «**One who is not driven away, he is great for (of / with) his father Re**».

Concerning that day of coming, this Osiris (=dead) says to Re: coming which you have done, I may see Re approaching in the west.

Functions and Roles

This text is called «The Four Sons of Horus» as: *3hw-sfhw ipw* «These **seven spirits**» are clearly stated, along with *d3d3t h3 Wsir* «The tribunal which is behind Osiris» without mentioning the other three names which can be read in the *N.K* and the Saite Period texts.

Also, the writer here in the text of the Late Period did not write the separation phrase (*ky dd ir 3hw-sfhw ipw*: Another speech, as for the **seven spirits**) between the new and old group names of the **seven spirits** as with the *N.K* and the Saite Period texts [see TABLE 1]. He may, however, have mentioned it in brief as: *ir 3hw-sfhw ipww* without the repeated expression: *ky dd*.

The same roles and functions in the previous texts were given to them here; see [TABLE 2].

VII. RELATIONSHIP WITH THE OTHER GODS

The texts connected with the seven-spirits presented in this study outline some of the close relationships they held with a variety of other gods, mentioned in the texts from the Middle Kingdom until the end of the Late Period [FIGURE 5]. The following can be concluded:

Re:

Spell 205 from the *CT* of the *M.K.* mentions that the seven spirits lift up Re *3hw-sfhw ipw f3i.w Ra* or even, as implied, his sacred bark. It seems that they are considered to be the extraordinarily strong bearers or hidden powerful spirits who move the solar divine bark, and watch over Re in his day and night journey, ensuring the safe linear movement of the bark itself without any slight danger or fault. So, they are guards and protectors of the solar system who guarantee its safety and that it remains in balance and order, of course under the authority of Re and with the blessing of his magical forces to enable them to perform these heavy and difficult duties.

This role is not repeated again in the religious texts in the periods that follow, to the end of the Late Period, but why? It could be suggested here that because the cult of the Osirian circle was expanded widely from the beginning of the Middle Kingdom onwards, this protective role could instead be ensured through the valuable sources found in the Coffin Texts and Book of the Dead rather than the cult of Re, or in tandem with it at times.

Osiris:

The nature of the relationship of the seven-spirits and the god Osiris is clear from their first occurrence in spell 355 from the *CT* of the *M.K.*, in addition to the texts of the Saite and Late Periods. These texts mention, in a unified and repeated manner, that he is their lord through his name *Wsir* (Osiris) or his titles *nb- sp3wt* «Lord of Nome's» and *Spy* «The Inspector». They always accompany him and follow him all the time at his private tribunal (*CT*, *BD* and late texts).

They are also mentioned as the keepers of his tomb and as the guards of his purification and embalmment place (texts of spell 17 from *BD*, Saite and Late Periods). Moreover, they are called *nbw-m3't* «Lords of Truth» in all the texts of study. This is the same title and role of Osiris in the Netherworld, being the judge of the last day of the dead in the court when they are assessed according to their life-deeds and their fate is decided. Thus, the seven spirits here are the sustainers of Osiris as he performs his sacred and venerable roles in the Underworld.

Anubis:

Beginning from spell 355 of the *CT* onwards, and in all of the texts under study, one can find the repeated mention and fixed phrasing that the god *lnpw* (Anubis) has made or has granted the seats of the seven spirits *ir.n lnpw st.sn*. Here *st.sn* perhaps means places or roles, duties and functions during his supervision over them. Anubis is one of the main gods who is strongly connected with Osiris, death and the beyond, mummification, guarding the necropolis, and keeping the secrets of the dead,

with his greatest role being the weigher of hearts of the dead for their judgment in the presence of Osiris in the Afterworld [FIGURE 6]. Anubis and the seven spirits are among the most important followers and sustainers of Osiris.

Setekh (Seth) and Thoth:

In texts of spell 355 (CT), the seven spirits and the gods Setekh (Seth) and Isds (=Thot) (spell 17 of BD) are called *nbw-m³t* «lords of the truth / justice»; and for Thot, «lord of the truth» and *nb l^mntt* «lord of the West» in the texts of Saite and Late Periods. The appearance of these common titles in the same text clearly proves their close connection and confirms their deep relationship with the otherworld, Osiris and the judgment of the dead in the next world. They are part of the great assembly of gods at the tribunal presided over by Osiris and perform duties for him in the hall of justice under his oversight.

God Setekh (Seth) is considered also as a ruler of the northern sky and has a connection with the Great Bear Constellations⁴⁹. So, he is mentioned with *p³ hpš m pt mh^tt* «the Great Bear constellations in the northern sky» in the text of spell 17 (N.K.).

⁴⁹ ALTENMÜLLER 1974: 202.

For more Readings about Ancient Egyptian astronomy, see:

GRIFFITH, F.L., «Ancient Egypt». In Chisholm, Hugh Ed.. Encyclopædia Britannica. 9 11th ed. Cambridge University Press 1911, 39-80; NEUGEBAUER, O. E.,: *Egyptian Planetary Texts*, Transactions, American Philosophical Society, N.S., vol. 32, Part 2, Philadelphia 1942, 209-50; NEUGEBAUER, O. & PARKER, R., *Egyptian Astronomical Texts*; 4vols. 1: *The Early Decans*; 2: *The Ramesside star clocks and the ancient Egyptian constellations*; 3: *Decans, planets, constellations and zodiacs Texts*; 4: *Decans, planets, constellations and zodiacs Plates*, Published for Brown University Press by Lund Humphries; 1st Ed. 1960-Brown Egyptological Studies.5, Brown University Press, London, Providence 1960; PARKER, R. A.,: « Ancient Egyptian Astronomy. Philosophical Transactions of the Royal Society of London» *Series A, Mathematical and Physical Sciences*, vol. 276, N^o. 1257, The Place of Astronomy in the Ancient World, Published by: Royal Society May 2, 1974, 51-65; NEUGEBAUER, O.E., *A history of Ancient Mathematical Astronomy, Studies in the History of Mathematics and Physical Sciences*, vol.1, Springer-Verlage, Berlin, Heidelberg 1975 ; KRUPP, E.C., «Light in the Temples», in: RUGGLES, C.L.N. Ed., *Records in Stone: Papers in Memory of Alexander Thom*. CUP, New York(Cambridge University Press) 1988, 473-499; LAWLORE, R., *Sacred Geometry: Philosophy & Practice Art and Imagination*, Thames Hudson Ltd. London 1989; CLAGETT, M., *Ancient Egyptian Science, a Source Book*, vol. 2: *Calendars, Clocks, and Astronomy*. American Philosophical Society for its Memoirs Series, vol. 214, Philadelphia, USA 1989; RELK, J., «Ancient Egyptian Astronomy: Ursa Major-Symbol of Rejuvenation». *Archaeoastronomy*. 172002–2003, 64-80; RUGGLES, C.L.N., *Ancient Astronomy, an Encyclopedia of Cosmologies and Myth*, ABC-Clio. LLC. Santa Barbara, Canada 2005; LEHMAN, H., *The Language of God in the Universe*; Pillar of Enoch Ministry Books, USA 2006; STEELE, J.M. Ed., *Calendars and Years: Astronomy and Time in the Ancient Near East*, Oxbow Books, Oxford 2007; BAUVAL, R., *The Egypt Code, The Disinformation Co. Ltd.*, USA 2008; SYMONS, S.L., COCKCROFT, R., BETTENCOURT, J. & Koykka, C., 2013. *Ancient Egyptian Astronomy*. [Online database] Available at: <http://aea.physics.mcmaster.ca/>; PRISKIN, G., *The Constellations of the Egyptian Astronomical Diagrams, Égypte Nilotique et Méditerranéenne* 12, 2019, 137-80; SYMONS, S.L., *A Star's Year: The Annual Cycle in the Ancient Egyptian Sky in: STEELE, J.M. Ed., Calendars and Years: Astronomy and Time in the Ancient World*. Oxbow Books, Oxford, 1-33.

The Four Sons of Horus

Beginning from the N.K. the fusion of the Seven-Spirits with the Four Sons of Horus is found, in addition to the appearance of three other gods that did not exist in the Coffin Texts from the M.K. (*ḥw-sfhw ipw I: (ḥmsty 11: Ḥ3pi 111: Dw3-mwt.f IV: Kbh-snw.f V: M3-n-it.f VI: Ḥry-b3k.f VII: Ḥr-m-ḥnty-irty*). These form a new group of the Seven-Spirits in the N.K. while preserving the old group names of the traditional Seven-Spirits from the M.K. in the same text: (*ḥw-sfhw I: Ndhdh 11: 3kdkd 111: K3-n-rdi.n.f-nby.f-ḥnty-hwt.f IV: k-ḥr-imy-wnwt.f V: Dšrt-irty-imy hwt-insy VI: 3sb-ḥr-pri-m-ḥt-ḥti VII: M33-m-grh inn.f m hrw*)

As for the Four Sons of Horus, it is no wonder that they were found here among the Seven-Spirits because they are servants, guards, and assistants of Osiris, father of the god Horus (father of the Four Sons), so Osiris here is their grandfather and their lord in the Netherworld. They follow him, as shown in spell 17(BD) (*ḥw-sfhw ipw imyw šms.w nb-sp3wt; ḏḏt ḥt Wsir (ḥmsty Ḥ3pi Dw3-mwt.f Kbh-snw.f*)

The new group names of the Seven-Spirits, which appear for the first time in spell 17(BD) from the N.K., continue side by side with the old group names in the texts of the Saite and Late Periods that follow.

VIII. RELATIONSHIP WITH THE DEAD

In Spell 205 of the *CT*, the text mentions that the deceased wishes that the Seven-Spirits will not look at him, because they put fear and terror in the hearts of bad people as a punishment (spell 355 of *CT*). If they look at him, they will take him with them as a sinner, and he will meet a severe fate by eating excrement, drinking urine and walking upside down.

The dead must also know all of their names because he will call them as the ferrymen- spirits of the sky and the west, to send a ferry-boat to cross the sky and allow him to join to the procession of Re. They will then transfer him into the west until he reaches the residence of Osiris to live in his neighborhood and enjoy all the beautiful things in the fields of Iaru as a good and venerable dead (Spells: 211; 400 & 401 of *CT*).

Finally, in the text of the Saite Period, one can read about the close connection among the dead, the god Horus and the Four Sons of Horus. In the beginning of the texts, the dead states that he is one of the gods who are following Horus: *ink w^c m nn nirw imyw-ḥt Ḥr*; he means, with «the gods who are following after Horus «the Four Sons of Horus», because he mentions them in the same first two lines: *mrwt nb.f ptr irf swt ḥms(t)y Ḥ3pi Dw3-mwt.f Kbh-snw.f*

Then, the traditional text of the Seven-Spirits comes, which connects them with the Four Sons of Horus from the N.K. (Spell 17 of BD). It could be concluded from this text that the dead wishes to be the son of Horus and the brother of his four sons, who comprise with three other gods now a new group of the Seven-Spirits, who accompany Osiris and follow him as his private tribunal: *nirw nbw m3^ct ḏḏt sw ḥ3 Wsir; ḥw-sfhw ipw imyw šms nb.sn sip; ḏḏt swt ḥ3-tp Wsir ḥms(t)y Ḥ3pi DwA-mwt.f Kbh-sn[w.f]*

The text of the Saite Period is the only one since the time of the New Kingdom that mentions the Four Sons of Horus three times in three places of the same text, in the same relative connection and in a close relationship with Osiris, Horus, Four Sons of Horus and the dead [FIGURE 7]. It seems that the dead became a god as a member of this sacred family in the afterworld;

one of the gods (Seven-Spirits) who follow their lord Osiris, so he now has a safe and luxurious fate forever in paradise beside the lord of eternity.

IX. RELATIONSHIP BETWEEN THE SEVEN SPIRITS AND OSIRIS (CONNECTION WITH THE NUMBER SEVEN)

What remains to consider is the relationship between the number seven and the traditional understanding of time and space being cyclic. Number seven symbolizes the creation act from the point of view of the perfection of its potential. Hence, the number seven is symbolic of creative capacity in both its principle and all manifest expressions thereof. The number seven stands for completion, totality and perfection. It also refers to what is holistic.⁵⁰

One can encounter these meanings and more in the texts of this study on the Seven Spirits. We can wonder here, why the number seven is chosen specifically with the Seven Spirits. As has been discussed above, these spirits are the followers, sustainers and tribunal who are behind Osiris, as stated in the religious texts presented here. There are several more associations with the number seven, and its multiples fourteen and twenty one, with Osiris.⁵¹ The seven Spirits are seven as followers and sustainers of Osiris.

X. RELATIONSHIP BETWEEN THE CONSTELLATIONS OF THE «GREAT BEAR» AND THE SEVEN SPIRITS

In the text of spell 17 (BD) from the *N.K.* and the Saite and Late Periods, one can read that the Four Sons of Horus (the main members of the Seven Spirits) exist – as their place – behind the constellation of the Great Bear in the northern sky: *d3d3t h3t Wsir (l)msty H3pi Dw3-mwt.f Kb3-snw.f n3 pw nty m-s3 p3 hp3 m pt mht.*

The Great Bear appears as the representative of the constellations of the northern sky, while Orion is the representative of the constellations of the southern sky and their expanses, according to ancient Egyptian astronomy. The seven stars of the Great Bear were interpreted as a group of seven akhu, at least according to BD chapter 17 in the papyrus of Ani. These seven akhu are associated with Letopolis, while spell 398 (CT) mentions the «seven gods» in connection with the offerings presented in this city. The Great Bear could be considered as a composite of seven deities.

It must be noted that the passage from the papyrus of Ani is a version of the part of BD 17 specifying the names of the seven akhu. The evidence from this papyrus does not stand in isolation, for the group recurs among the deities attending the northern constellations.

⁵⁰ CHENKEL 1966: 423-25; GÓDECKEN 1985: 128-9; LOPRIENO 1986: 1308-12; WILKINSON 2001: 333-34
See also: SETHE 1916; WILKINSON 1994; WASTON 2002.

⁵¹ MOJSOV 2007: 149-152.

Orion and the Great Bear are viewed as acting in cooperation for the benefit of the deceased. The Great Bear is a composite of seven deities who may be involved in the Opening of the Mouth at Letopolis and who are the guards of the corpse.

In dealing with the Great Bear, it can be noticed that the seven stars were conceived as the seven akhu and a specific link existed between these and Letopolis. It can hardly be a coincidence that seven gods are mentioned in spell 398 in connection with an offering rite in Letopolis, and also that both deal with a ferry crossing to the abode of Osiris⁵².

The Seven Spirits, as seven stars of the Great Bear or even seven gods who are living within it, are all connected with the idea of helping the dead, guarding him from dangers and keeping him safe until he reaches his residence in the Field of Rushes. The Seven Spirits are the gate keepers and ferrymen of the west; they play a subordinate role for both the gods and the dead. They dwelled in the northern sky and were associated with navigation across the winding waterway which led from the northern heaven to the eastern horizon for lifting up the day and night barks of Re. They then make ferry crossings to the west. So, the dead hopes that they come to him when he summons them and calls them by their names to transfer him in a ferry-boat to the Netherworld, where he will rest at the end of his journey as a blessed dead.

XI. CONCLUSION

After a long search for the suitable meanings of the term *ꜣhw-sꜣhw*, especially for the first term *ꜣhw*, it can be translated as: «*the seven spirits*», synonymous with ideas of power and extraordinary forces. The seven spirits were a group of minor gods or genii and demons that served as followers, assistants and tribunal members behind the greatest and the most important two gods in the religion of ancient Egypt: Re and Osiris.

One can read about them in the religious texts of the O.K. (PT, only for the term: *ꜣhw* «spirits, ghosts, demons»), the M.K. (CT), the N.K. (BD) and the Late Period (for the term: *ꜣhw-sꜣhw*). They were mentioned repeatedly especially since the Coffin Texts (CT) of the Middle Kingdom (when they are most clearly first attested) onwards, then in the Book of the Dead (BD) of the New Kingdom, the religious texts of the Saite Period (26th Dynasty) and finally in the Late Period. The term *ꜣhw-sꜣhw* was written on the sides of coffins and in papyrus rolls in a variety of distinguished writing forms, in perfect styles which proves the extraordinary skills of the scribes and their supervisors in Ancient Egypt.

Analysis of the major religious texts from different periods reveals valuable knowledge about these «Seven Spirits», in terms of their detailed names, roles, functions, importance to gods and the dead in the afterworld, and their relationships with other gods.

⁵²WILLEMS 1996: 184-86; CT 1954: vol.5, 153- 54; FAULKNER 1977: Vol.2, 35-36; WAINWRIGHT 1932: 159-72; WAINWRIGHT 1932: 373-382.

THE SEVEN SPIRITS  (A_{xw}-s_{fxw})
IN THE ANCIENT EGYPTIAN RELIGION


The Seven-Spirits were strange creatures, like genii, devils, ghosts (spirits) and demons. They eat and drink dirty things like excrements and urine and walk upside down. So, the spells in the *CT* of the *M.K.* must be recited by the good dead so as not to meet this miserable fate and disastrous end for a human being in the next world. They put terrors into the bad dead and sinners by feeding them these detested substances, preventing them from enjoying good foods and drinks, and forcing them to walk upside down in the realm of the dead. The Seven-Spirits were the sustainers of the god Re. They lifted him or his bark up, and resided behind the constellation of the Great Bear in the northern sky.

They were also the followers of the god Osiris, being his gang and companions who help him in his affairs and deeds in the afterworld. Thus, they were called *nbw-m3ʿt* «Lords of Justice» as part of the tribunal of Osiris who follow him to oversee judgement under his control, and put fear in the hearts of the bad dead in the underworld. They were also the guards of the burial-mound or sacred tomb of Osiris and keepers of his sacred embalmment-place or his purification-house. In addition, they help the good deceased to cross the hazards and overcome the obstacles and dangers of the Netherworld by transferring him in a ferry-boat to reach his final destination, the abode of Osiris, in a sound and safe state. Here, he will enjoy a luxurious stay and good things in an infinite life in *Ḥrw* «The Field of Reeds» beside Osiris. Accordingly, they were called: *ḥw-mḥntyw n lmnnt* «Ferryman-Spirits of the West».

The Names of the Seven-Spirits were fixed in the *CT* of the *M.K.* Yet, in the texts of the *BD* of the *N.K.* onwards, an essential change in the order of their names is observed. Their first four names are also now the same names as the four sons of Horus, who of course have a deep connection with Osiris, in addition to there being three new names to complete the seven. Remarkably, the writer of these texts did not omit the old names, but placed them after the new names, preserving traditional religious knowledge for future generations.

There are strong connections among the Seven-Spirits and some gods, as mentioned in the religious texts from the *M.K.*, the *N.K.*, and the Saite and Late Periods: Re, Osiris, Anubis, Thoth, Setekh (Seth) and the Four Sons of Horus. There is also a close relationship between the good dead and the Seven-Spirits. The Seven Spirits are connected deeply with the Great Bear constellations in the northern sky as well, represented as seven stars and seven gods who help the blessed dead in his journey of eternity.

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LIST OF ABBREVIATIONS

CT = DE BUCK, A., *Coffin Texts*, 7 vols; Chicago (1935-1961).

E = CHASSINAT, E., *Le temple de Edfu*, 15 vols; IFAO, Le Caire (1892-1933).

JEA = *Journal of Egyptian Archaeology*, (London).

LÄ = HELCK, W., OTTO, E., & WESTENDORF, W. (Eds), *Lexikon der Ägyptologie*, 7 vols, Wiesbaden (1972-1975).

LGG = LEITZ, Ch., *Lexikon der ägyptischen Götter und Götterbezeichnungen*, 8 Bde, OLA.110-129, (Peeters Publishers and Department of Oriental Studies), Leuven (2002-2003).

OLA = *Orientalia Lovaniensia Analecta*, Louvain.

Urk = Sethe, K., Helck, H.W., Schäfer, H., Grapow, H. & Firchow, O. (Eds), *Urkunden des Ägyptischen Altertums*, 8 vols, Leipzig/Berlin (1903-1957).

Wb = ERMAN, A. & GRAPOW, W. (Eds), *Wörterbuch der ägyptische Sprache*, 7 vols und 5 Bde Belegstellen, Berlin/Leipzig (1926-1963).

WPL = WILSON, p., «A Ptolemaic Lexikon, A Lexicographical Study of the Texts in the Temple of Edfu», OLA.78, Leuven (Publishers Peeters and the Department of Oriental Studies) 1997

BIBLIOGRAPHY

ALTENMÜLLER, B.: *Synkretismus in den Sargtexten, Synkretistische Erscheinungen in den altägyptischen Religion*, Wiesbaden (Harrassowitz, Verlage) 1974.

BAUVAL, R.: *The Egypt Code*, New York (The Disinformation Co. Ltd.,) 2008.

CLAGETT, M.: *Ancient Egyptian Science, a Source Book*, vol.2: Calendars, Clocks, and Astronomy. American Philosophical Society for its Memoirs Series, vol. 214, (Philadelphia) American Philosophical Society 1989.

DE BUCK, A.: *The Egyptian Coffin Texts*, 7 vols, Chicago (The University of Chicago Press), 1835-1962.

ENGLUND, G.: *Akh-Une Notion Religieuse dans L'Égypte Pharaonique*, (Stockholm) Uppsala University 1987.

ERMAN, A. & GRAPOW, H. (Eds): *Wörterbuch der ägyptischen Sprache I-VII*, Leipzig (J. Hinrichs) 1926-1950 [= Wb]

FAULKNER, O.R.: *The Ancient Egyptian Coffin Texts*, 3 vols; Warminster (Aris & Phillips), 1973-1987.

_____ ; *A Concise Dictionary of Middle Egyptian*, Oxford (Griffith Institute), 1991 .

GARDINER, A.: *Egyptian Grammar*, 3rd ed., Oxford (Griffith Institute), 1957 .

GÖDECKEN, K.: «Symbolische Zahlen», In LÄ 5, Edited by HELCK, W. & OTTO, E., 128-9, Wiesbaden (Otto Harrassowitz), 1985.

GRAPOW, H.: *Urkunden V: Religiöse Urkunden Ausgewählte Texte des Toten Buches*, Leipzig (J. Hinrichs) 1916.

GRIFFITH, F. L.: «Ancient Egypt», In *Encyclopedia Britannica* 9 (11th ed.), Edited by CHISHOLM HUGH, 39-80, New York (Cambridge University Press) 1911.

KRUPP, E.C.: «Light in the Temples», In *Records in Stone: Papers in Memory of Alexander Thom*, edited by RUGGLES, C.L.N., 473-99, New York (Combridge University Press), 1988.

LAWLORE, R.: *Sacred Geometry: Philosophy & Practice, Art and Imagination*, London (Thames Hudson Ltd), 1989.

LEHMAN, H.: *The Language of God in the Universe*, Elmwood Park, Illinois (Pillar of Enoch Ministry Books) 2006.

LEITZ CH.: *Lexikon der Ägyptischen Götter und Götterbezeichnungen*, 8 Bde, OLA.110-129, Leuven (Peeters Publishers and Department of Oriental Studies) 2002-2003.

- LEPSIUS, R.: *Das Totenbuch der ägypter nach den hieroglyphischen Papyrus in Turin*, Leipzig: (Wigand) 1842 & 1969.
- LESKO, H.L.: *A Dictionary of Late Egyptian*, 5 vols, Providence, Rhode Island (B C Scribe Pubns) 1982-2002.
- LOPRIENO, A.: «Zahlwort», In *LÄ*. 6, edited by HELCK, W. & OTTO, E., 1308-12, Wiesbaden (Otto Harrassowitz) 1986.= [LÄ]
- MOJSOV, B.: «Osiris and the Number Seven», *Bulletin of Egyptological Seminar (=BES)* 17, in Honor of James F. Romano, 2007, 149-52.
- NAVILLE, E.: *Das aegyptische Totenbuch der XVIII. Bis XX. Dynastie Aus Verschiedenen Urkunden*, 3 Bde, Erster Band, Text und Vignetten & Zweiter Band, Varianten, (Berlin A. Asher & co. 1886.
- NEUGEBAUER, O. E. & PARKER, R.: *Egyptian Astronomical Texts*, 4 vols, 1st ed., Brown Egyptological Studies.5, London (Brown University Press & Providence), 1960.
- NEUGEBAUER, O. E.: *Egyptian Planetary Texts, Transactions of the American Philosophical Society*, N^o.S., 32, Part 2, (Philadelphia) The American Philosophical Society 1942, 209-250.
- _____: *A history of Ancient Mathematical Astronomy*, Studies in the History of Mathematics and Physical Sciences, vol. 1, Berlin, Heidelberg (Springer-Verlage) 1975.
- PARKER, R. A.: «Ancient Egyptian Astronomy.Philosophical Transactions of the Royal Society of London»Series A, *Mathematical and Physical Sciences*,. 276, N^o. 1257,The Place of Astronomy in the Ancient World, 51-65, London (Royal Society) 1974.
- PRISKIN,G.:«The Constellations of the Egyptian Astronomical Diagrams», *Égypte Nilotique et Méditerranéenne* 12, 2019, 137-180.
- RELK, J.: «Ancient Egyptian Astronomy: Ursa Major-Symbol of Rejuvenation», *Archaeoastronomy*17, 2002-3, 64-80.
- RUGGLES, C.L.N.: *Ancient Astronomy, an Encyclopedia of Cosmologies and Myth*, (Santa Barbara) ABC-Clio. LLC. 2005.
- SCHENKEL, W.: «Die Numeri des Substantivs und die Konstruktion der Zahlwörter im Ägyptischen», *Orientalia*, NOVA SERIES35, N^o. 4, 1966, 423-25.
- SETHE,K.: *Urkunden des Ägyptischen Altertums*, I-VIII, (Berlin & Leipzig) J.C. Hinrichs'sche Buchhandlung 1904-1957.
- _____
SCHÄFER, H.: *Urkunden des Aegyptischen Altertums*, Fünfte Abteilung Heft 2, Religiöse Urkunden, Ausgewählte Texte des Totenbuches, Bearbeitet von Hermann Grapow, (Leipzig) J. Hinrichs 1916.
- _____
Von Zahlen und Zahlworten bei den alten Ägyptern, (Straßburg) K.J. Trübner 1916.
- STEELE, J.M. (Ed): *Calendars and Years: Astronomy and Time in the Ancient Near East*, Oxford (Oxbow Books) 2007.
- SYMONS, S.L.: «A Star's Year: The Annual Cycle in the Ancient Egyptian Sky», In *Calendars and Years: Astronomy and Time in the Ancient World*, edited by STEELE, J.M., 1-33, Oxford (Oxbow Books), 2013.
- _____
COCKCROFT, R., BETTENCOURT, J. & KOYKKA, C.: *Ancient Egyptian Astronomy*. [Online database]. Available at: <http://aea.physics.mcmaster.ca/>, 2013.
- VERHOVEN, U.: *Das saitische Totenbuch der Iahtes-nacht*, P. Colon Aeg. 10207, 3 Bde, Bonn (Dr. RUDOLF HABELT GMBH) 1993.
- WAINWRIGHT, G.A.: *A Pair of Constellations, Studies Presented to F. L. L. Griffith*, *Egypt Exploration Society*, 373-82, London (Oxford University press) 1932.
- _____
«Letopolis», *JEA*. 18, 1932, 159-72.
- WASTON, J.: *Ancient Egyptian Symbolism, an Introduction*, Cairo (AUC Press) 2002.

WILKINSON, R.: *Symbol and Magic in Egyptian Art*, London : (Thames & Hudson) 1994.

_____. «Symbols», *In Oxford Encyclopedia of Ancient Egypt (=OEAE)*, vol. 3, Edited by REDFORD DONALD, ___ 333-34, Cairo: (AUC Press) 2001.

WILLEMS, H.: «The Coffin of HeQata (Cairo JdE 36418), A Case Study of Egyptian Funerary Culture of the Early Middle Kingdom» *OLA*. 70, Leuven (Publishers Peeters and the Department of Oriental Studies) 1996.

WILSON, P.: «A Ptolemaic Lexikon, A Lexicographical Study of the Texts in the Temple of Edfu», *OLA*.78, Leuven (Publishers Peeters and the Department of Oriental Studies) 1997.



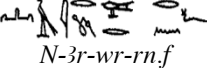
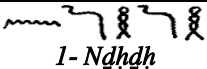
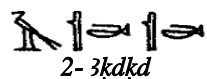
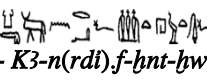
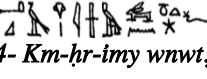
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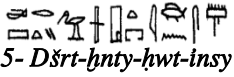



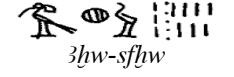
Spell 355 (CT: M.K)	Spell 17 (BD: N.K.)	Saite Period	Late Period
Chief: <i>N-3r-wr-rn.f</i>	<i>[N] 3r-pri.f -wr-rn.f</i>	<i>N 3ri.f wr.f it.f</i>	<i>N 3ri wr.f n it.f R^c</i>
Other Possible Readings: <i>3r-wr, 3r-wr-rn.f, N-3yr-wr-rn.f, N-3r-wr-pr.f-rn.f, N-3r-wr, N-3r-wry-rn[.f], N-3r-wry-rn.f, 3ry-wr-rn[.f], N-3yw3-wr-rn.f, N-3ry-wr-pr, N-3yr-ir.f-rn.f, N-3r-wr-rn-r.f, N-3ry-wr-rn.f, N-3ry-rn.f, N-3r-r-wr, N-3ry-wrt-rn.f, N-3ry-wr, N-3ry-wr-rn.f</i>			
1- <i>Dḥdh</i>	<i>[T]Msty</i>	<i>Ḥmsti</i>	<i>Ḥms[.i]</i>
Other Possible Readings: <i>Ndhdh, Ndḥdh, Ndḥdh rn.f, Dḥdh, Ndḥd, Ndḥdh[y], Dḥdh, Ndḥndh, Ndḥdh, Ndḥh</i>			
2- <i>3kdkd</i>	<i>Ḥ3pi</i>	<i>Ḥ3pi</i>	<i>Ḥ3pi</i>
Other Possible Readings: <i>Nydyd, Nidyd, Nkdkd rn.f, 3kdkd, Nkdkd, Nkdkdy, Nd, 3kdkdy, 3kdk, Nkdnkdn, Kdnkdn, Ndydy, Nkdnkdn</i>			
3- <i>k3-n-rdi.f-ḥnt-hwt.f</i>	<i>Dw3-mwt.f</i>	<i>Dw3-mwt.f</i>	<i>Dw3-mwt.f</i>
Other Possible Readings: <i>K3-nbi.f-ḥnt-hwt.f, K3-syf-ḥnt-hwt.f, K3-syf-ḥnty-ḥwt.f, K3-n rdi.n.f-ḥnt-hwt.f, K3-n-iwf-ḥnty-hw[.t].fy, K3-n-iw.f-nbi-ḥnt-hwt.f, K3-n-rdi.f-ḥnt-hwt.fy, K3-n-iwf-rn.f-ḥnt-hwt.f, K3-nbi.f-ḥnty-hwt.f, K3-^c3-iwf-ḥnty-hwt.f, [K3]-n-rdi-nt-ḥnt-[h]wt.f, K3-rdi-nn[...]-ḥnty-hwt[.f], K3-nbi.f</i>			
4- <i>km-ḥr-imy-wnwt.f</i>	<i>Kḥh-snw.f</i>	<i>Kḥh-snw.f</i>	<i>Kḥh-snw.f</i>
Other Possible Readings: <i>ḥk-ḥr-imy-wnwt, ḥk-imy-wnwt.f rn.f, ḥk-ḥr-imy-wnwt.f, ḥk-n-wr-ḥr-imy-wnwt.f, ḥk-ḥr-wnwt.f, ḥk-ḥr-imy-wnwt.fy, ḥk-r-ḥnw-wnwt.f, ḥk-ḥr-imy-dw3t.f</i>			
5- <i>Dṣrt-ḥnt-hwt-insy</i>	<i>M33-n-it.f</i>	<i>M33-n-[it.f]</i>	<i>M33-it.f</i>
Other Possible Readings: <i>Dṣrty-imy-ḥnt-hr-insy, Dsr-imy-ḥnt-insy</i>			
6- <i>3sb-ḥr-pri-m-ḥt sp-sn</i>	<i>Ḥry-b3k.f</i>	Lacuna	<i>Ḥr-b3k.f</i>

<p>Other Possible Readings:<i>N-[ʔ]sb-ħr-prr-m-ħtħt, Nb-[ʔ]sb-ħr-prr-m-ħtħt, ʔsb-ħr-pri-m-ħtħt, [ʔsb-ħr]-pr-r-m-ħty</i></p>			
<p>7-<i>M33-m-grħ-int.f-m-hrw</i></p>	<p><i>ħr-m-ħnty-irty</i></p>	<p><i>ħr-ħnty-[irty]</i></p>	<p><i>ħr-ħnt-n-irty</i></p>
<p>Other Possible Reading:<i>M33-m-grħ-ʔ[si].f-m-hrw-rn.f</i></p>			
	<p>In the same text, the writer mentioned that in another speech <i>ky dd ir ʔħw-sfħw</i>, they are called:</p> <ol style="list-style-type: none"> 1- <i>Dħdh</i> 2- <i>ʔkdkd</i> 3- <i>K3-n-rdi.n.f-ħnty-ħwt.f</i> 4- <i>ʔk-ħr-imy-wnwt.f</i> 5- <i>Dšrt-irty-imy ħwt-insy</i> 6- <i>ʔsb-ħr-pri-m-ħt ħti</i> 7- <i>M33-m-grħ-inn.f-m ħrw</i> 	<p>In the same text, the writer mentioned that in another speech <i>ky dd ir ʔħw-sfħw ipw</i>, they are called:</p> <ol style="list-style-type: none"> 1- <i>Ndħdh</i> 2- <i>ʔkdkd</i> 3- <i>K3-nn-rdit.n.f-nbyt.f-ħntt-ħh.f</i> 4- <i>ʔk.f-ħr-imy-wnwt.f</i> 5- <i>Dšrt-irty-imy-ħnt ħwt-insy</i> 6- <i>ʔsb-ħr-pri-m-ħtħt</i> 7- <i>M33-m-grħ-inn-m ħrw</i> 	<p>In another place of the same text, the writer mentioned them <i>ir ʔħw-sfħw ipw</i> in new names, they are called:</p> <ol style="list-style-type: none"> 1- <i>Ndħdh</i> 2- <i>kdkd</i> 3- <i>K3-nn-rdit.n.f-nbyt.f-ħntt-ħh.f</i> 4- <i>ʔk-ħr-imy-wnwt.f</i> 5- <i>Dšrt-irty-imy-ħt ħwt-insy</i> 6- <i>ʔsb-ħr-pri-m-ħtħt</i> 7- <i>M33-m-grħ-inn.f-m ħrw</i>


[TABLE 1]: Group-names for the «seven-spirits» in the texts of study


THE SEVEN SPIRITS (3hw-sfhw)
IN THE ANCIENT EGYPTIAN RELIGION

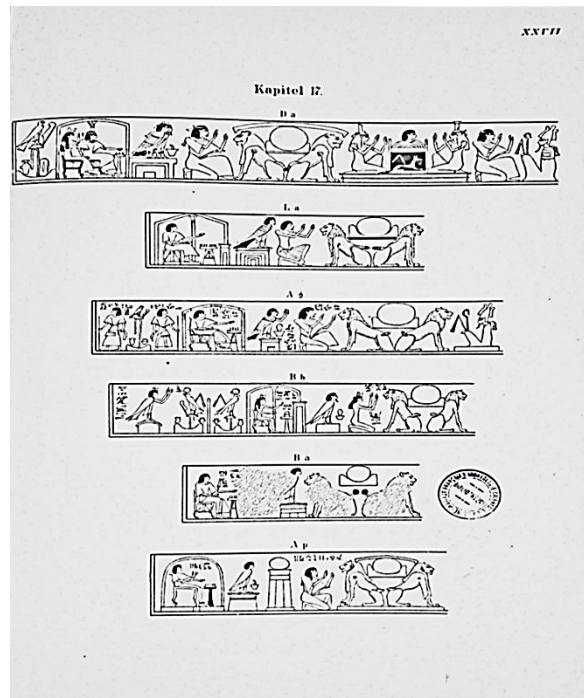
Name	Meaning	Function	Number of Spell/Chapter	Reference
 And varieties 3hw-sfhw	The Seven Spirits	-Lifting Re up or his bark. -Sitting with the sinner or bad dead and judge him. -put terror into bad dead by looking at him sharply. - make the bad dead drink the urine, eat the excrements (dirties) and walk upside down.	CT. 205.	De Buck, <i>CT. III</i> (1947), spell 205, 146 (a-e); 147 (a-e); 148 (a-g); 149 (a-f); 150 (a-e); 151 (a-f); 152 (a-b).
 And varieties 3hw-sfhw	The Seven Spirits	- They are the lords of truth. - They are the tribunal behind Osiris. - They put terrors into bad dead. -They destroy the enemies of Osiris.	CT. 335.	- De Buck, <i>CT. IV</i> , spell 335, 253 (c); 254 (a-b); 255 (a-b); 256 (a-c); 257 (a-c); 258 (a-b); 259 (a-c); 260 (a-c); 261 (a-d); 262 (a-b); 263 (a-c); 264 (a-c); 265 (a-e); 266 (a-e); 267 (a-e); 268 (a-d); 269 (a-i); 270 (a-c); 271 (a-g); 272 (a-c).
 <i>N-3r-wr-rn.f</i>	'The Great One is not driven away'.	The Chief or the leader of the Seven Spirits.	CT. 335.	- <i>Urk. V</i> , ss. 39-41, A text from M.K.
 <i>1- Ndhdh</i>	Unknown?			
 <i>2- 3kdkd</i>	Unknown?			
 <i>3- K3-n(rdi).f-hnt-hwt.f</i>	'Bull who was not put to his burning'.			
 <i>4- Km-hr-imy wnwtf</i>	'Black-Faced who is in his hour'.			

 <p>5- <i>Dšrt-hnty-hwt-insy</i></p>	<p>'Bloody one who is Pre-eminent in the Mansion of Red Linen'.</p>			
 <p>6- <i>3sb-hr-pri-m-ht-hti</i></p>	<p>'Radiant-Face who comes out after having turned back'.</p>			
 <p>7- <i>M33-m-grh-int.f-m-hrw</i></p>	<p>'He who sees in the night what he shall bring by day'.</p>			
 <p>And varieties (see texts). <i>3hw-sfhw</i></p>	<p>The Seven Spirits</p>	<p>-They are the ferrymen of the sky and the West. - They bring the <i>k3yt</i>-ferry boat to the good dead when he summons them by their names to go down and reach the West and cross him over to the «Field of Rushes».</p>	<p>CT. 400 & 401.</p>	<p>- De Buck, CT. V, spell 400, 170 (g); 171 (a-f); 172 (a-g); 173 (a-g). - De Buck, CT. V, spell 401, 174 (b-k).</p>
 <p><i>3hw-sfhw</i> And their detailed seven names as were indicated above and their chief:(N) <i>3r-pri.f-wr m.f.</i> In addition to a new group of names for the first time in the religious texts. Their first four name are the four sons of Horus, and three other different names: I:(T)<i>msty</i> II:<i>H3pi</i> III:<i>Dw3-mwt.f</i> IV:<i>Kbh-snw.f</i> V:<i>M33-n-it.f</i> VI:<i>Hry-b3k.f</i> VII:<i>Hr-m-hnty-irty</i></p>	<p>The Seven Spirits</p>	<p>-Lords of truth. - Lords of the West and eternity. Protectors. -The tribunal behind Osiris. -They put terror into sinner and evil-doer dead. -They dwell behind the Constellation of the Great Bear in the northern sky. -Guards of the burial mound (=tomb) of Osiris. -Guards of the Purification Place of Osiris (=mummification and embalmment).</p>	<p>CT. 335. BD. 17.</p>	<p>From New Kingdom sarcophagi, transmitted from CT of Middle Kingdom:(De Buck, CT.IV, spell 335, 253c-272a-c). -<i>Urk.</i> V, 41, 11; 42, 13; 43, 5. -Tb. 17. LGG. I, s. 45. - <i>Urk.</i>V, ss. 1; 41-49 (M.K.); 41-44 (N.K.); 44-46 (Late Period). 41-44, a text from N.K. (Book of the Dead, spell 17). - LEPSIUS1969;NAVILLE 1886;GRAPOW1916: ss. 18-19.</p>

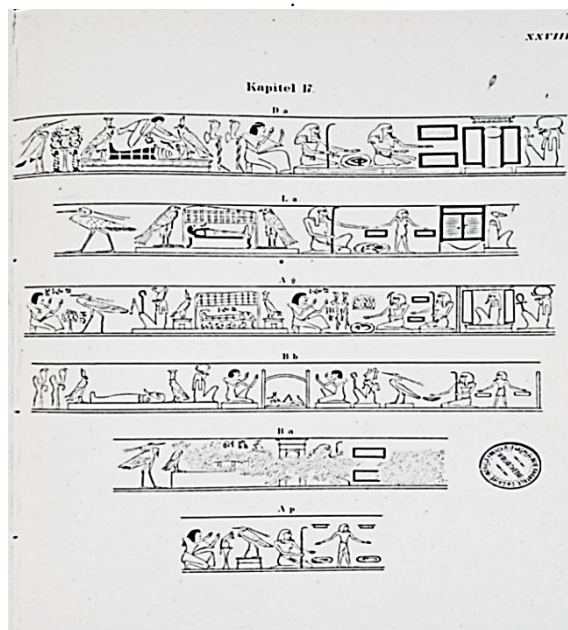

THE SEVEN SPIRITS *(3hw-sfhw)*
IN THE ANCIENT EGYPTIAN RELIGION

 <p>And their detailed seven names with their chief. (A similar text to the previous one).</p>	<p>The Seven Spirits</p>	<p>The same functions in the previous text. Besides: -They accompany - as followers- their lord Osiris. - They help the good dead to become one of them (one of the gods who are following Horus, especially: the Four Sons of Horus =his son). -They are connected in close relationship with the great gods in the After world: Osiris, Horus, Anubis, Thoth and Sobek.</p>	<p>BD. 17. Saite Period. (The 26th Dynasty) and Later Period.</p>	<p>-VERHOVEN1993: ss. 12-13, cols. 9 (9-17), 10 (1-3); Teil 1: Text, ss. 100-102. - <i>Urk. V</i>, ss. 44-46, a text from Late Period.</p>
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[TABLE 2]: Analytical summary of the study

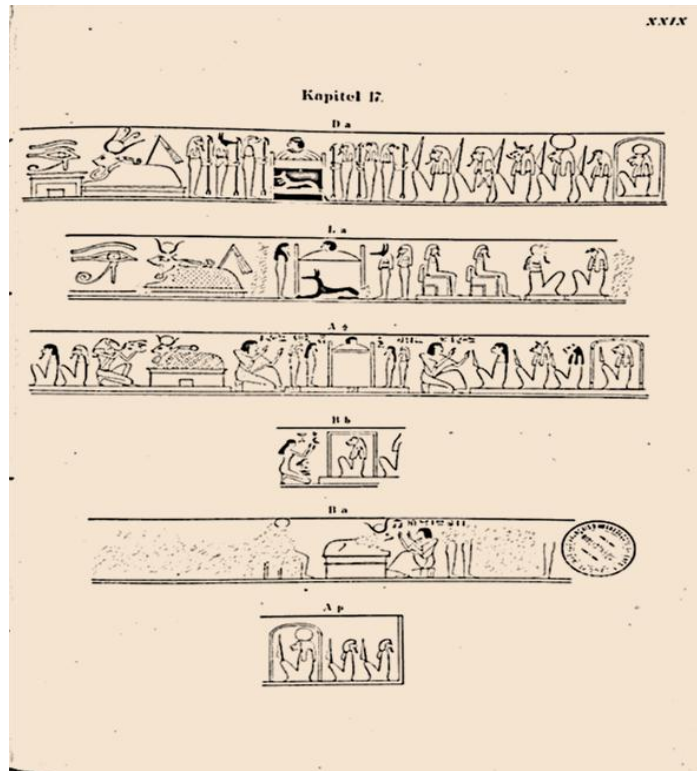


[FIGURE 1]: The «Seven Spirits» in Chap 17 from the Book of the Dead (New Kingdom).
NAVILLE 1886: pl. XXVII

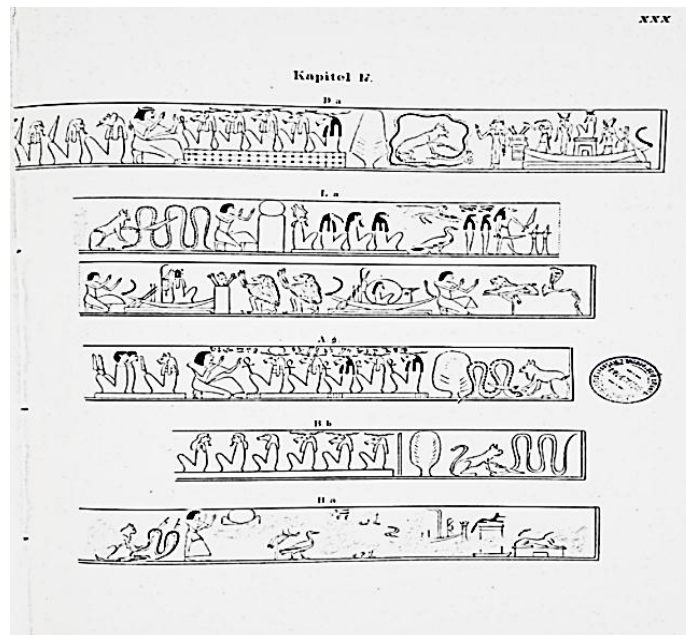


[FIGURE 2]: The «Seven Spirits» in Chap 17 from the Book of the Dead (New Kingdom).
NAVILLE 1886: pl. XXVIII.


 THE SEVEN SPIRITS *(3ḥw-sḥw)*
 IN THE ANCIENT EGYPTIAN RELIGION



[FIGURE 3]: The «Seven Spirits» in Chap 17 from the Book of the Dead (New Kingdom).
 NAVILLE 1886: pl. XXIX.



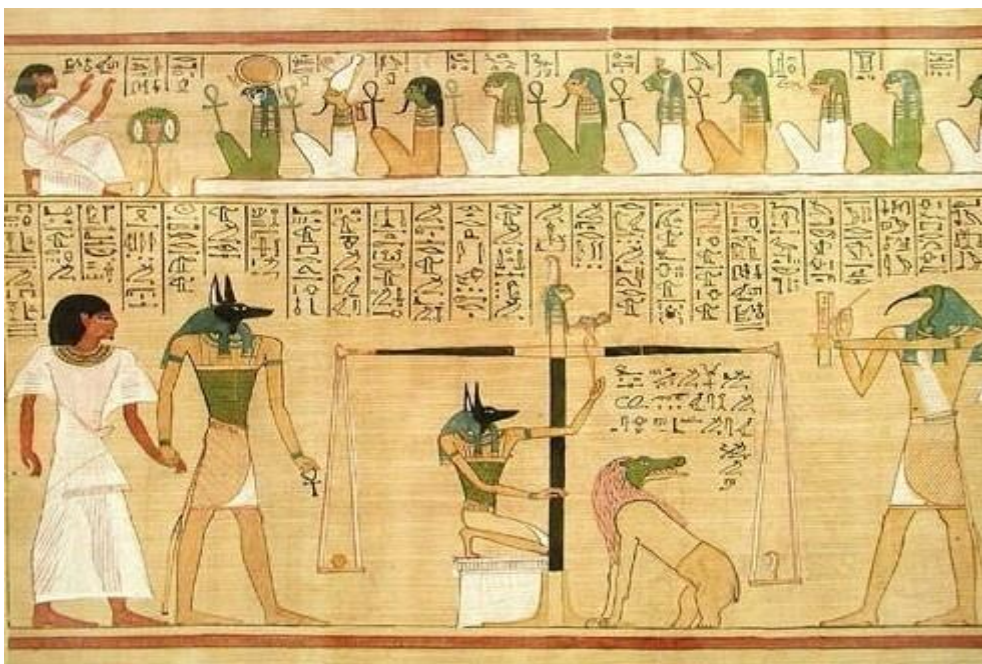
[FIGURE 4]: The «Seven Spirits» in Chap 17 from the Book of the Dead (New Kingdom).
 NAVILLE 1886: pl. XXX.

For FIGURES: 1-4

NAVILLE 1886: ss. xxiv-xxvi & pls. xxvii-xxx; Zweiter Band, Varianten, Kapitel 17, ss. 29-74
 (for *3ḥw-sḥw*, ss. 53-57).

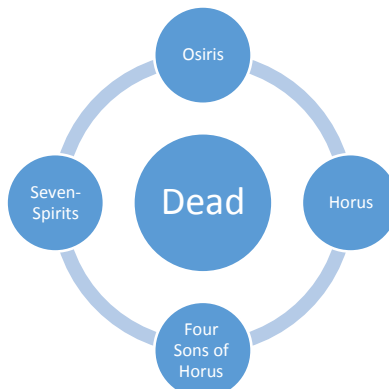


[FIGURE 5]: The Relationship among the Seven Spirits and other gods mentioned in the texts of the study.



[FIGURE 6]: Roles of Anubis and Thoth in the weighing of the Heart as sustainers of Osiris, Book of the Dead for the scribe Hunefer.

<https://courses.lumenlearning.com/suny-hccc-worldcivilization/chapter/ancient-egyptian-religion/>



[FIGURE 7]: The Dead as a member of the Osirian Circle and connection with the Seven-Spirits in the Afterworld according to the text of the Saite Period.

الأرواح السبعة (آخو-سفخو) في الديانة المصرية القديمة

رضوان عبد الراضى سيد أحمد سيد

أستاذ مساعد بقسم الآثار المصرية - كلية الآثار / جامعة أسوان

الملخص

ذكر هذا المصطلح بصورة متكررة بأشكال كتابية متعددة في النصوص الدينية من عصر الدولة الوسطى والحديثة والعصر الصاوى والعصر المتأخر. ويبدو أن هذه المعبودات السبعة باعتبارهم مخلوقات غريبة أو جن كانت على درجة كبيرة من الأهمية في عقيدة الموت ومصيرهم في العالم الآخر بدليل الذكر المتكرر لها في النصوص الدينية. ذكرت هذه المعبودات مرتبطة بعدد من المعبودات الكبرى مثل رع وأوزير وأنوبيس وتحوت وأبناء حورس الأربعة وست، كما أن لهم علاقة قوية وعميقة جدا بالمتوفى ومجموعة نجوم «الدب الأكبر». أفصحت النصوص صراحة عن أسماءهم السبعة بالتفصيل، وارتباط ذلك العدد بالإله أوزير، كما بينت أدوارهم المتعددة خلال رحلة المتوفى في العالم الآخر. تستند هذه الدراسة على عدد من المصادر النصية المختلفة.

هذه الورقة البحثية تتناول بعض النقاط في الديانة المصرية القديمة مثل:

محاولة تفسير مصطلح الأرواح السبعة في الديانة المصرية القديمة، الأشكال الكتابية المختلفة لهذا المصطلح. النصوص التي ورد بها ذكر الأرواح السبعة من عصر الدولة الوسطى والحديثة والعصر المتأخر، علاقة الأرواح السبعة بالمعبودات الأخرى الواردة في نفس النصوص مثل رع و أوزير وأنوبيس وتحوت وحورس وأبناء حورس الأربعة، علاقة الأرواح السبعة برمزية العدد سبعة في مصر القديمة، وارتباطه العميق بالمعبود أوزير، وارتباطها أيضا بمجموعة النجوم في السماء الشمالية، علاقتهم بالمتوفى في العالم الآخر.

الكلمات الدالة: الديانة المصرية القديمة، الأرواح السبعة، نصوص التوابيت، كتاب الموتى، العالم الآخر، أوزير.



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DEISIS IN THE PAINTINGS OF CHRISTIAN EGYPT A DEPICTION OF THE INTERCESSORY SUPPLICATION

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DEISIS IN THE PAINTINGS OF CHRISTIAN EGYPT: A DEPICTION OF THE INTERCESSORY SUPPLICATION

By

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ABSTRACT

The concept of intercession is deeply embedded in Eastern Orthodoxy through the reciting of the Intercession Prayer, addressing the Christ, as the main intercessor, and other holy figures, including the Virgin, the saints, the martyrs and even angels, to intercede on behalf of the faithful and deliver their prayers to God. Deisis is one of the intercession themes that is widely illustrated in murals and icons of Christian Egypt. It is represented in different compositions, but mainly consists of three main figures: the Christ Pantocrator flanked by the two main intercessors, the Virgin Mary and John the Baptist. Many other elements and figures were then added, emphasizing the divinity of the Christ and the intercession practice. This study aims to highlight the unique place of the Virgin Mary and John the Baptist in Orthodox liturgy and their important role as intercessors for the salvation of mankind through the different depictions of the Deisis in Christian Egypt.

KEYWORDS: Deisis, Virgin Mary, John the Baptist, Intercession and Salvation.

DEISIS IN THE PAINTINGS OF CHRISTIAN EGYPT:
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I. INTRODUCTION

The Deisis theme is widely represented in Christian Egypt on a range of materials, but especially paintings. The word Deisis is derived from the Greek word δέσις meaning supplication or prayer. It is mainly represented in an artistic context in scenes of the Virgin Mary and John the Baptist on either side of the Christ Pantocrator in different postures.^{1 2}

Basically, it is the illustration of the Commemoration or Intercession Prayer of the Eastern liturgy in which the names of the Christ, the Virgin, John the Baptist, and a number of other holy figures are being commemorated and supplicated to establish durable connections with these holy figures, who can be intercessors or intermediaries for humanity salvation.³ In other words, Deisis represents the offering of supplications of all people before Christ by the Virgin and John the Baptist, sometimes in connection with other saints, and sometimes without.⁴

In the Old Testament, many statements refer to the intercession to God on behalf of others: *«Therefore the people came to Moses, and said, We have sinned, for we have spoken against the LORD, and against thee; pray unto the LORD, that he take away the serpents from us. And Moses prayed for the people»*⁵.

In the New Testament we read: *«Continue earnestly in prayer, being vigilant in it with thanksgiving; meanwhile praying also for us, that God would open to us a door for the word, to speak the mystery of Christ, for which I am also in chains, that I may make it manifest, as I ought to speak»*⁶.

The Christ is depicted either standing or enthroned, flanked by Mary Theotokos⁷ to the right and John the Forerunner to the left.⁸ They are both considered as the supreme eschatological intercessors for humanity salvation due to their advantaged role as the first eyewitnesses to Christ's divinity or First Coming; hence, the Virgin becomes the intercessor for the Blessed while John the Baptist is the intercessor for Sinners⁹.

¹ MOURIKI 1968: 13- 28; Carr 1991: 599- 600.

² Christ Pantocrator means the «Ruler» or «Preserver of all», is a representation of the bearded Christ, with hair neatly parted, sits on a throne often absent, his right hand raised in blessing, left hand holding the gospel, expression blessing. MCDOWELL 2011: 432.

³ MOURIKI 1968: 14; KANTOROWICZ 1942: 70.

⁴ CORMACK 2018 :84; BECKWITH 1988: 193.

⁵ Num. 21: 7- 9

⁶ Col. 4: 2- 5

⁷ **Mary Theotokos** Θεοτόκος, a Greek term meaning «God-bearer» or the «Mother of the Lord» Lk 1:43, it is a title of the Virgin Mary used in Eastern Christianity and appeared in art with the enthroned Virgin carrying the Infant Christ, RONCAGLA 1991 :225.

⁸ KALAVREZOU 1990: 167.

⁹ KANTOROWICZ 1942: 71; WALTER 1968: 312.

The Deisis appears usually in two forms: either as independent unit, or as the central theme of a larger and more complex composition. An example of the latter is the Last Judgment scene, of which the Deisis constitutes the center. Another is the so-called Great Deisis, which is a fuller and more complete rendering of the Commemoration or Intercession Prayer, including the Deisis group, angels, prophets and various categories of saints and symbols of the four evangelists, all imploring the aid of Christ. This Great Deisis has a central place in the row of icon panels above the Royal Doors of the Iconostasis, emphasizing the value and importance attributed to the practice of intercession.¹⁰

II. DEISIS COMPOSITION

This popular composition represents the unification between the three most important figures of the Christian hierarchy: Christ, the Virgin, and John the Baptist. Sometimes, in a developed form of the Deisis, in addition to the Christ, the Virgin and the Baptist, angels, apostles, prophets and other saints are also depicted¹¹. The Christ Pantocrator «Ruler» or «Preserver of all» is represented either enthroned or standing, wearing a chiton and a himation, with the right hand raised in blessing and the left hand holding the Gospel. Scholars say that this composition also shows the Christ as ruler enthroned in his Kingdom between two interceding courtiers.¹²

The footstool of the Christ is almost a permanent feature in Deisis. Sometimes, additional footstools are provided for the Virgin and John, and in other examples, a plinth is used by the three figures and the footstool of the Christ is omitted.¹³

According to Coptic Liturgy, The Redemptive Intercession was the act of the Christ when crucified on the Holy Cross, through his blood. He becomes the main intermediary for salvation between God and man: «Neither by the blood of goats and calves, but by his own blood he entered in once into the holy place, having obtained eternal redemption for us»¹⁴. He is the only savior or redeemer of all human sins: «My dear children, I write this to you so that you will not sin. But if anybody does sin, we have an advocate with the God—Jesus Christ, the Righteous One. He is the atoning sacrifice for our sins, and not only for ours but also for the sins of the whole world»¹⁵ From a theological aspect, the Christ is referred to as a «mediator» so he could intercede for humankind before God with the holes on his outstretched hands and the scars all over his body that continually plead for mercy.¹⁶

¹⁰ MOURIKI 1968: 16; CARVELEY 2011: 187; ATANASSOVA 2011: 597.

¹¹ MOURIKI 1968: 13- 14.

¹² CARVELEY 2011: 187; WALTER 1980: 261- 269.

¹³ MOURIKI 1968: 19.

¹⁴ Heb. 9: 12

¹⁵ 1 Jn. 2: 1-2.

¹⁶ [Http://thecatholictalks.com/artspeaks_post.asp-id=28](http://thecatholictalks.com/artspeaks_post.asp-id=28).

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After the Christ, there are many intercessors who please God by their deeds: they are acceptable to him, present in his Kingdom, and their voices are heard. They are addressed during the service in specific order; the Virgin, The Angels, Archangels, St. John the Baptist, Disciples, Apostles, Prophets, Martyrs and Saints. As for the two prominent intercessors, the Virgin and John the Baptist, they were chosen for their privileged role as the first eye-witnesses of Christ's divinity and consequently, enjoy a unique place in the Christian scheme of salvation. The Virgin is the chief instrument of the Incarnation, while John is the forerunner who, according to the liturgical Commentaries, is the ancestor of the Christ associated with the beginnings of the Liturgy.¹⁷ Consequently, both of them are the most efficient intercessors for humanity and represent the New and the Old Covenant respectively.¹⁸

It is also important to mention that the Virgin and John the Baptist had one feature in common; in Greek and Oriental rites, they are the only human beings believed to dwell in the angelic world. Here, the Virgin ranks higher than the angels, as in the Eastern Orthodox service she is praised as: «*More honorable than the Cherubim, and beyond compare more glorious than the Seraphim*»¹⁹.

The Virgin Mary is always represented on the right side of Christ as she is the first intercessor to be invoked in the Commemoration or Intercession Prayer of the Liturgy. The right side is also the position of power and closeness. It cannot be overemphasized that, in the Davidic Kingdom, the throne of the queen was on the right side of the king. We can read of this in 1 *Kin.* when Solomon positions a throne for his mother, the queen mother, on his right. This is why whenever we see an image of Christ as king, Mary is always on his right²⁰.

In the basic iconography of the Deisis, she is represented in three-quarter view, with her hands extended parallel in supplication and her glance directed sideways.²¹ Traditionally, Mary's image is found above the sanctuary, where she presides over the consecration of the Eucharist as the Mother of the Christ and a symbol of the church. In this context, Mary is a shining example of the rewards of a life of humility and obedience to God, the greatest of all the saints, and an eschatological intercessor at the throne of the Christ.²²

The Blessed Virgin Mary has an indubitable place of honor in Orthodox Christianity as the second member of the Holy Trinity. She is a powerful advocate for all

¹⁷ MOURIKI 1968: 14.

¹⁸ MOURIKI 1968: 16.

¹⁹ KANTOROWICZ 1942: 71; CARVELEY 2011: 597.

²⁰ GOLDSCHMIDT & WEITZMANN 1934: 69- 70.

²¹ MOURIKI 1968: 18.

²² CARVELEY 2011: 597.

humankind, revered as «*our all-holy immaculate, most blessed, and glorious Lady Theotokos and Ever-Virgin Mary*». In Scripture, her special status is foretold in the words of the Archangel Gabriel for whom she is «*blessed among women*» and «*full of grace*». ²³ In consenting to do the will of God, Mary becomes the mother of the incarnate Word and makes salvation come true. ²⁴

The high reverence for the Virgin Mary by the Copts is best expressed in the Coptic Synaxarion, ²⁵ where she is described as «*the sovereign of the universe, the queen of all womanhood, through whom we have grace*»; thus, the Copts celebrate seven feasts for her. ²⁶

The role of the Virgin Mary as intercessor for mankind is evident through her depiction as Hodegitria, which is a Greek term meaning «*She who shows the way*» or the guide who shows the humankind the «*Way, The Truth, the Life, and Salvation*» by being witness to the Christ. ²⁷

The Virgin's role as the most effective of the church's intercessors rests on her intimate connection with the Savior, who listens to his mother's prayers. The veneration accorded to her is also an acknowledgment of the salvific power of the Christ, of which she is the first recipient. The church accordingly teaches that while the saints rightly receive honor *douleia*, she alone of all creatures is appointed by God to receive «high honor» (*hyperdouleia*²⁸).

As for St. John, he is glorified because «he alone appeared on earth as an angel incarnate»; he «*participates in the ethereal dignity*», for when he baptized the Christ, angels assisted him as celestial acolytes, and he performed the service in an angelic way though still a mortal. Accordingly, he is sometimes represented with wings and was believed to have been granted the third heaven as his domain. ²⁹

Being «*greater than all saints*», he has his place in the Eastern church between the angels and the apostles. Therefore, in the mass, the third particle taken by the priest from the *Amons* is sacrificed in honor and memory of «*glorious Prophet, Precursor and Baptist John, and the other prophets*»³⁰.

In Deisis, John the Baptist always appears to the left of the Christ, clad in a simple chiton and mantle, with wrinkled face and unkempt hair, his glance directed at the

²³ Lk. 1: 26– 38

²⁴ CARVELEY 2011: 599.

²⁵ *Coptic Synaxarion* is a liturgical book includes list of saints, very important for the history of the Coptic Church and it appears in two forms: the recension from Lower Egypt, and the recension from Upper Egypt. °ATIYA 2000: 2171.

²⁶ RONCAGLLA 2000: 2256; GABRA 2009: 126.

²⁷ MCGUCKIN 2011: 307.

²⁸ ATANASSOVA 2011: 599.

²⁹ KANTOROWICZ 1942: 71.

³⁰ KANTOROWICZ 1942: 71; BRIGHTMAN 1896: 357.

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beholder and his crossed or outstretched hands expressing supplication.³¹ As for his role as an intercessor for mankind, it has been suggested that he works in parallel with the Virgin because he is responsible for the Lord's second birth, the baptism,³² and also because John was of a miraculous birth and therefore closely associated with Christ and the Virgin.³³

III. ICONOGRAPHY OF DEISIS

There are many representations of the Deisis in Christian Egypt, usually in the form of murals and icons in different compositions. However, the earliest preserved example of the Deisis is represented in a mosaic of St. Catherine's Monastery in Sinai, dated back to the sixth century³⁴.

1. Murals

A. Deisis with the Four Living Creatures, Monastery of St. Antony [FIGURE 1]

On the east wall of the Chapel of the Four Living Creatures, a seventh century image of Deisis is shown. The haloed figure of Christ Pantocrator is represented within the *mandorla*³⁵ supported by four angels, holding a codex in his left hand and blessing with the right. The Coptic text within it reads: «*Jesus Christ, Emmanuel, our God*». Christ's feet rest on a semicircular hoop representing the earth, inscribed: «*Heaven is my throne and earth is my footstool*»³⁶. On the sides of the *mandorla* are two groups. To the left, the Holy Virgin Mary and two apocalyptic beasts are shown with the sun above them. To the right, John the Baptist is depicted with the remaining two beasts and above them is the moon. Both figures stretch their hands in supplication gesture. An Armenian text under the scene reads: «*Holy, holy, holy, Lord*».³⁷

³¹ MOURIKI 1968: 18.

³² **Baptism** is the first sacrament of the Orthodox Church. In the Early Christian centuries this mystery was known under various names, including «the washing of regeneration» Illumination *photismos* and «the sacrament of water». It is considered the most important sacrament of the church, as it initiates one into mystical communion with Christ. Therefore, it is also called «the door» that leads peoples into the Christian Church. In the New Testament it is associated with St. John the Baptist and his washing of repentance and forgiveness. TROSTYANAKIY 2011:65.

³³ KANTOROWICZ 1942: 71.

³⁴ It is called **the Mosaic of the Transfiguration**. The Christ is standing in glory between Moses, Elijah and three disciples. The Virgin is depicted in bust form on the left side of the Christ and St. John is on the right side. For more information. LARISON 2016: 362, f. 2.9.

³⁵ **Saint Antony Monastery**: In the second half of the fourth century, a monastic community seems to have grown up around the site where the Saint Antony lived in the Eastern Desert near the Red Sea. The recent Monastery possesses a number of churches, the most important of which is the Old Church or the Great Church of Saint Antony, which has many impressive preserved paintings. **Mandorla** is an oval enclosing a scene. GABRA 2002: 73- 75, 135

³⁶ ISA. 66: 1.

³⁷ GABRA 2002: 79, Pl. 6.4.



[FIGURE 1]: Deisis depiction in the Monastery of St. Antony
GABRA 2002: pl. 6.4

B. Deisis with Moses and Aaron, Monastery of St. Macarius [FIGURE 2]

On the Eastern wall of the Sanctuary of St. Mark, Monastery of Saint Macarius, a twelfth century illustration of the Christ Pantocrator stands holding the Holy Bible and raising the right hand in blessing. To his right is represented the Virgin Mary inside a medallion, and Saint John the Baptist is depicted in a medallion to his left. Above the arch, priest Aaron is represented to the right holding in his right hand the incense box, and swinging a censer with his left hand, and Moses is depicted to the left, wearing a red cloak and stretching his arms to take the incense box.³⁸



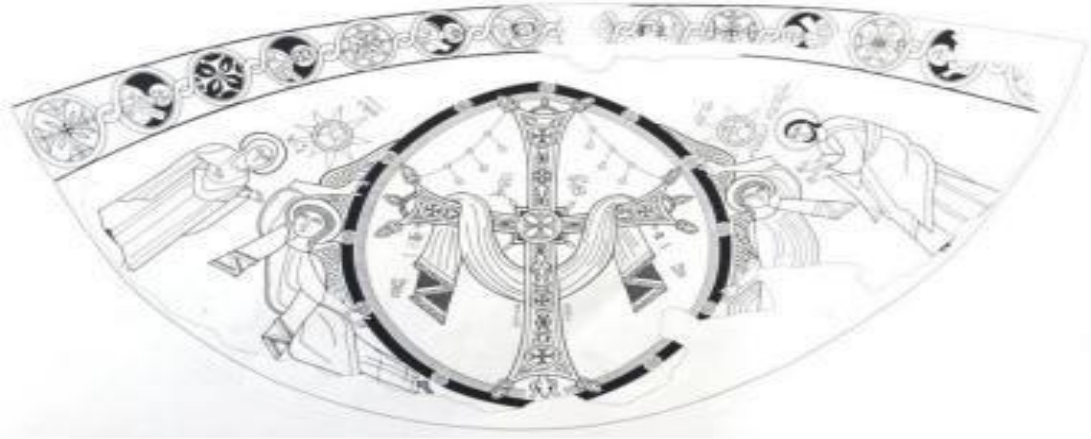
[FIGURE 2]: Deisis mural in the Monastery of St. Macarius at Wadi Natrun
LEROY 1982: pl. 54

³⁸ **The Monastery of Saint Macarius Anba Maqar** is named after its patron saint Macarius the Great. It is the southernmost Monastery in Wadi Natrun and contains the Old Church of St. Macarius which has two sanctuaries: the southern dedicated to St. Benjamin and the northern to St. Mark. LEROY 1982: 37, pl. 54; ATTALA 2000: 64- 65; GABRA 2002: 56.

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C. Deisis with the Holy Cross, White Monastery [FIGURE 3]

The southern semidome is decorated with a twelfth century scene of the Holy Cross, symbol of the Christ supported by two winged angels. The Virgin and John the Baptist are represented on either side of the Cross with the sun and moon above them. A series of medallions occupied by alternating crosses and busts of prophets frame the entire scene.³⁹



[FIGURE 3]: Deisis depiction with the Holy Cross in the White Monastery

LAFERRIERE 2008: pl. II

2. The Icons

The Deisis theme is more often represented on icons than in the murals. There are many icons found at Saint Catherine Monastery bearing different representations of the Deisis, their dates ranging from the twelfth to sixteenth centuries. They can be divided into two categories: the original version that includes only the three main figures of the Deisis; and the developed composite form that includes the original depiction accompanied by other elements.⁴⁰

A. The Original Depiction

This includes the iconography of the Christ, either enthroned, standing or even in bust form, flanked by the Virgin at his right and John the Baptist at his left:

³⁹ **The Monastery of St. Shenute, known as the White Monastery** is located on the edge of the cultivation in the Libyan desert, about eight kilometers to the west of the city of Sohag. It is very close to the ancient village of Atripe, where Christianity existed long before Shenute. The hermits knew the mountain of Atripe prior to the beginning of the fourth century, but it was under the leadership of St. Shenute that the monastery grew considerably. The church of the monastery is the most important Christian monument in Upper Egypt and dated back to the middle of the fifth century. LAFERRIERE 2008: 124, Pl.II ; GABRA 2002: 94- 95.

⁴⁰ DRANDAKI 2006: 497.

- Deisis Icons with Enthroned Christ [FIGURE 4]

The Christ Pantocrator is depicted enthroned, his feet resting upon a footstool. He is wearing colored chiton and himation, making the gesture of blessing with the right hand while holding a closed or open Bible with the left hand. Through the open book and inscriptions in it, the Christ offers the path to salvation and presents himself as the Light of Life.⁴¹ The closed Book is decorated with pearls. The Virgin stands to the right of the Christ turning in a three-quarter view towards him with slightly bent head, her hands extended in prayer position, and her son responds with a visual affirmation of divine benevolence or his blessing. She wears a long tunic and maphorion with tasseled fringes and red shoes. To the left of the Christ, stands John the Baptist turning also in a three-quarter view towards the Christ. He is clad in a chiton and a mantel, his hands extended or crossed in a gesture of supplication. The heads of the three figures are surrounded by *nimbi*,⁴² with that of the Christ decorated with crosses.⁴³



[FIGURE 4]: Deisis Icons with enthroned Christ at Sinai.

St. Catherine's Monastery. <http://vrc.princeton.edu/sinai/items/show/6924>, 6827

⁴¹ NELSON 2006: 183.

⁴² **Nimbus** pl. *nimbi* is a ring or emanation of light around the head of the Christ, the Virgin, the saints and angels. GABRA 2002: 135.

⁴³ From 1958 to 1965, the University of Michigan, Princeton University, and the University of Alexandria carried out four research expeditions to the remote Monastery of Saint Catherine at Mount Sinai; for the online database, MOURIKI 1968: 14; *The Sinai Icon Collection*, accessed August 5, 2020. <http://vrc.princeton.edu/sinai/items/show/6827>; : <http://vrc.princeton.edu/sinai/introduction>.

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- Deisis Icons with Standing Christ [FIGURE 5]

The same iconography of Christ Pantocrator appear in these Deisis icons, but in standing position. Otherwise, the details are almost the same, except in the icon to the right, where John the Baptist replaces the Virgin to the right of the Christ, and is pointing to the Christ with his left hand⁴⁴.



[FIGURE 5]: Deisis Icons with standing Christ, St. Catherine Monastery at Sinai
Right: John the Baptist replaces the Virgin. <http://vrc.princeton.edu/sinai/items/show/6781>, Michigan Inventory Number 690. Left, MOURIKI 1968, F.2

- Deisis Icon with Bust Figures [FIGURE 6]

Beautiful traditional representation of the Deisis in a bust form, found in the Monastery of St. Catherine. It was probably part of a larger composition, now destroyed⁴⁵.

⁴⁴ NELSON 1983: 217.

⁴⁵ PARPULOV 2010: 365, f. 108.



[FIGURE 6]: Deisis Figures in bust form.

Reproduced courtesy of the Michigan-Princeton-Alexandria Expedition to Mount Sinai

[Http://vrc.princeton.edu/sinai/items/show/7097](http://vrc.princeton.edu/sinai/items/show/7097)

B. The Composite Depiction

- Deisis with St. Euthymios, Moses, and the Archangel Michael (FIGURE 7)

This icon consists of two registers. In the upper one, the Christ is enthroned in the center, but on a backless throne. As usual, at his right and left sides stand the Virgin and John the Baptist respectively, their arms extended in the gesture of prayer or supplication. In the lower part, there are three saints, whom Professor Weitzmann has identified from left to right as Euthymius, Moses and Michael.⁴⁶ Moses is pointing upwards to the Christ, to his left stands the Archangel Michael holding an orb in one hand and a sword in the other, while Saint Euthymios stands to his right.⁴⁷ The two saints hold an unrolled scroll upon which texts are inscribed. Euthymius's text reads: ΗΠΑΚΟΤ|ΗΝΖΟΗ|ΝΠΑΡΑ|ΚΟΗΝ|ΘΑΝΑ|ΤΟΝ, that is: Τπακούεινζωήν,παρακούειν θάνατον *obedience is life, disobedience is death* referring to salvation by obedience to the Christ. Moses' text reads: ΕΙΠΕ|ΝΚΣ|ΠΡΟΣ|ΜΩΗ|ΣΗΣΑ|ΝΑΒ|ΕΙΠΡ|ΟΣΜΗ|ΗΣΤΟ|ΟΡΟ, which corresponds to the text of Exod. 24.12 : ΕΙπεν κύριος προς Μωσήν Ανάβηθι προς με εις τό ορός *The Lord said to Moses : Come up towards me on the mountain*. The angel, the prophet and the monk have been chosen as typical witnesses of Christ's divinity, while the Virgin and John the Baptist are the intercessors.⁴⁸

⁴⁶ MOURIKI 1991- 1992: 169,f. 1.

⁴⁷ KESSLER 2000: 54.

⁴⁸ NELSON 1983: 203; KESSLER 2000: f. 2.7; WEITZMANN 1963: 194.

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[FIGURE 7]: Deisis with St. Euthymios, Moses, and the Archangel Michael

[Http://vrc.princeton.edu/sinai/items/show/6597](http://vrc.princeton.edu/sinai/items/show/6597)

- Deisis and Trinity [FIGURE 8]

This unique icon shows a representation of the Deisis with the Holy Trinity including the Father, the Son, and the Holy Spirit. The Christ is enthroned as usual but, to his left, sits an old bearded man representing God (the Father) who makes the gesture of blessing with his right hand. The Holy Spirit takes the form of a dove, which releases light rays and hovers over them both. The Virgin and St. John are represented in the usual form.⁴⁹



[FIGURE 8]: Trinity-Deisis Icon, St. Catherine Monastery

[Http://vrc.princeton.edu/sinai/items/show/7335](http://vrc.princeton.edu/sinai/items/show/7335)

⁴⁹ MOURIKI 1968: 24, F. 10.

- Great Deisis [FIGURE 8]

This twelfth century icon shows the Great Deisis theme, which includes the same three main figures with the two winged archangels Michael and Gabriel flanking the holy figures. They are dressed in beautiful mantels and hold orbs decorated with crosses. In addition, around 50 figures of Hierarchs, Martyrs, and crowned Saints are arranged in five registers.⁵⁰



[FIGURE 9]: Right Great Deisis Icon. Left the part includes the main Deisis Figures

[Http://vrc.princeton.edu/sinai/items/show/6664](http://vrc.princeton.edu/sinai/items/show/6664)

- Deisis with Crucifixion and Saints [FIGURE 10]

This icon summarizes the whole process of salvation for mankind through the crucifixion of the Christ, and the intercession of the two main persons who witnessed it. The Christ is crucified on the Holy Cross, the Virgin Mary and John the Baptist stand on both sides and busts of the prophets Elijah and Moses with thirteen other saints are represented inside circles framing the scene, witnessing the process of intercession and supplication. The Virgin turns her thumb up to her mouth and Saint John touches his eye and mouth in grief. Two mourning angels are also depicted above the Cross.⁵¹

⁵⁰ PARPULOV 2010: 371.

⁵¹ NELSON 2006: 157.

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[FIGURE 10]: Deisis with Crucifixion and Saints.

NELSON 2006, FIG. 106

Through [TABLE 1], some observations about the iconography of the Deisis in the paintings of Christian Egypt can be summarized as follows:

- The Deisis theme is more often represented on the icons than in the murals of Byzantine Egypt.
- The enthroned Christ is the preferred posture in the Deisis iconography.
- The representation of the Virgin Mary and John the Baptist is almost the same in all examples, with the exception of the replacement shown in (Fig.5.)
- Holy figures including prophets, saints and the four living creatures are widely shown with the Deisis as witnesses of the Christ's divinity and representing all who consecrated their supplications to receive salvation.
- Most of the icons and murals are dated back to the period from the twelfth to sixteenth century or the so-called Byzantine and post-Byzantine periods. At this time, icons are influenced with the artistic features of the so-called Cretan school, which are especially clear in the icons of St. Catherine Monastery in Sinai.⁵²

To sum up, the Deisis composition is an outstanding feature of the Christian paintings in Egypt, which reflects one of the important rites in the Eastern Orthodox Liturgy.

⁵² **Cretan school** is one of the most important schools of icon painting that flourished in Crete during the post-Byzantine period, where the artists developed a new artistic approach that combines the Eastern and Western artistic traditions. SPRATT 2012: 2-19.

Description	Christ's Posture	Context		
		The Virgin	John the Baptist	Others
Mural- Monastery of St.Antony - Seventh century , On the east wall of the Chapel of the Four Living Creatures [FIGURE 1]	Enthroned <i>in mandorla</i> , holding a closed codex in his left hand and blessing with the right	Right of the Christ- Supplication gesture outstretched hands	Left of the Christ- Supplication gesture outstretched hands	The Four Living Creatures- Representations of sun, moon and angels.
Mural-Monastery of St. Macarius, Twelfth century , On the Eastern wall of the Sanctuary [FIGURE 2]	Christ stands holding the closed Holy Bible and raising the right hand in blessing	In a medallion to his right	In a medallion to his left	Priests Aaron and Moses
Mural -The southern semidome, White Monastery, Twelfth century [FIGURE 3]	The Holy Cross symbolizes the Christ	Right of the Christ- Supplication gesture outstretched hands	Left of the Christ - Supplication gesture outstretched hands	Winged angels, crosses, sun, moon, busts of prophets
Icons, St.Catherine Monastery, Twelfth century [FIGURE 4]	Enthroned Christ, open / closed bible	Right of the Christ- Supplication gesture outstretched hands	Left of the Christ – Supplication gesture outstretched /crossed hands	-
Icons, St.Catherine Monastery [FIGURE 5] ca.1571 AD	Standing Christ, open / closed bible	Right of the Christ- Supplication gesture outstretched hands	Left of the Christ - outstretched hands Right of the Christ	-

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			exception pointing to the Christ with his left hand	
Icon with Bust Figures [FIGURE 6] Ca. 1230–50, Michigan inventory N°. 1246	Bust form, closed Bible	Right of the Christ-Supplication gesture outstretched hands	Left of the Christ - Supplication gesture outstretched hands	-
Icon, St.Catherine Monastery, Thirteenth century Michael, Michigan Inventory Number 293, [FIGURE 7]	Enthroned Christ, closed bible	Right of the Christ-Supplication gesture outstretched hands	Left of the Christ - Supplication gesture outstretched hands	St. Euthymios, Moses, and the Archangel Michael and inscriptions
Icon with Trinity, Michigan, Sixteenth century , Inventory Number 1693, [FIGURE 8]	Enthroned Christ, open bible	Right of the Christ-Supplication gesture outstretched hands	Left of the Christ - Supplication gesture outstretched hands	Holy Spirit in the form of a dove, old bearded man symbolizing God
Icon of Great Deisis, Michigan Inventory Number 416, Twelfth century [FIGURE 9]	Enthroned Christ, closed bible	Right of the Christ-Supplication gesture outstretched hands	Left of the Christ - Supplication gesture outstretched hands	The Archangels Michael and Gabriel with about fifty figures of Hierarchs, Martyrs, and crowned Saints
Icon with Crucifixion, St.Catherine Monastery, Thirteenth century [FIGURE 10]	Crucified Christ	Right of the Christ-outstretched hands, turns her thumb up to her mouth.	Left of the Christ - outstretched hands, touches his eye and mouth in grief.	Prophets Elijah and Moses with thirteen other saints, two mourning angels

[TABLE 1]: Different Depictions of Deisis

IV. CONCLUSION

The idea of intercession is well established in Egyptian belief and can be traced through ancient and modern historical ages. Ordinary people used to make supplication and prayers to God through an intermediary, such as a king, a priest, a saint or even an angel, who has the ability to deliver the prayers on behalf of them and assuring their acceptance. In Eastern Liturgy, this practice of entrusting of the prayers to the Virgin or someone else is pictorialized in an artistic Byzantine context called Deisis. Here, the Virgin Mary and John the Baptist can be considered the most prominent intercessors, who will beg the Christ with outstretched hands for the salvation of humanity.

Due to the crucial liturgical character of these Deisis murals and icons, they are used to decorate the walls of the Sanctuary. In particular, they appear in the iconostasis, where the Deisis icon occupies the upper central part among the other icons, emphasizing the value and importance attributed to the Virgin and St. John's intercession. Being in an accessible part of the church, the worshipers are confident that their prayers to Mary and the other saints ultimately made their way to Christ.⁵³

Moreover, the eye-catching colors used in these murals and icons, especially the burnished gold, offer a great shimmering glitter that acts as a mirror, thus giving viewers a so-called visual path of salvation within the church space, linking these paintings to the glistening Eucharistic chalice and paten on the altar table in the inner sanctuary.⁵⁴

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⁵³ ATANASSOVA 2011: 597.

⁵⁴ CARR 1991: 600; NELSON 2006:185;.

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BIBLIOGRAPHY

- ATANASSOVA, A.: «Theotokos, the Blessed Virgin», *The Encyclopedia of Eastern Orthodox Christianity*, Edited by McGuckin J.A., Chichester (Wiley-Blackwell), 2011, 594-599.
- ATIYA, A.S.: « SYNAXARION, COPTO-ARABIC», *Coptic Encyclopedia*, vol.7, Edited by ATIYA, A.S, New York (Macmillan), 1991, 2171-2190.
- ATTALA, N.S.: *Coptic Art*, vol.1, Cairo (Lehnert & Landroch Publication) , 1984.
- BECKWITH, J.: « Early Christian and Byzantine Art», Edited by PETER LASKO, England (Published by Penguin Group), 1988.
- BRIGHTMAN, F.E.: *The Liturgy of St. John Chrysostom*, In *Liturgies Eastern and Western*, Oxford (Clarendon Press), 1896.
- CARVELEY, K.: «Deisis», *The Encyclopedia of Eastern Orthodox Christianity*, edited by MCGUCKIN, J.A, Chichester (A John Wiley and Sons Publication),2011, 187- 192.
- CARR ,A.W.: «Deisis», In *Oxford Dictionary of Byzantium*, Edited by KAZHDAN, A.P., Oxford (Oxford University Press), 1991, 599-604.
- CORMACK, R.: *Byzantine Art*, Oxford (Oxford University Press), 2018.
- GABRA G.: *Coptic Monasteries*, Egypt's Monastic Art and Architecture Cairo (AUC Press), 2002.
- GABRA G.: «Hagiography, Coptic», In : *The A to Z of the Coptic Church*, Toronto (The Scarecrow Press), 2009, 154- 157.
- DRANDAKI, A.: «Through Pilgrims' Eyes: Mt Sinai in Pilgrim Narratives of the Thirteenth and Fourteenth Centuries», *Deltion Christianikis Archaeologikis Ephemiris* 27, 2006, 497-503.
- GOLDSCHMIDT, A. & WEITZMANN K.: «Die Byzantinischen Elfenbeinskulpturen», *The Art Bulletin* 2, 1934, 69-79.
- KANTOROWICZ, E.: «Ivories and Litanies», *Journal of the Warburg and Courtauld Institutes*, vol.5, 1942, 56-81.
- KALAVREZOU, L.: «Images of the Mother: When the Virgin Mary Became «Meter Theou», *Dumbarton Oaks Papers* 44, 1990, 165-172.
- KESSLER, H.L.: *Spiritual Seeing: Picturing God's Invisibility in Medieval Art The Middle Ages Series*, Pennsylvania: (University of Pennsylvania Press), 2000.
- LAFERRIERE, P.: *La Bible murale dans les sanctuaires Coptes*, MIFAO 127, Cairo, 2008.
- LARISON K.M.: *Mount Sinai and the Monastery of St. Catherine: Place and Space in Pilgrimage Art*, Chicago (University of Chicago), 2016.
- LEROY, J.: «Les Peintures des couvents du Ouadi Natrun», *MIFAO* 2, Cairo, 1982, 37, Pl.54.
- MARTINIANO, P.R.: «Theotokos», *Coptic Encyclopedia*, vol.7, Edited by ATIYA, A.S; New York, 2000, 2255-2256.
- MCDOWELL, M.G.: «Pantocrator Icon», *The Encyclopedia of Eastern Orthodox Christianity*, Edited by MCGUCKIN J.A, A Chichester (John Wiley & Sons Publication), 2011, 430-436.
- MCGUCKIN, J.A.: «Hodegitria», *The Encyclopedia of Eastern Orthodox Christianity*, Edited by MCGUCKIN J.A, A Chichester (John Wiley & Sons Publication), 2011, 307-3011.
- MOURIKI D.: «A Deësis Icon in the Art Museum», *Record of the Art Museum*, Princeton University, 27/1 13-28, New Jersey (Published by: Princeton University Art Museum) 1968.

- MOURIKI D.: «A Pair of Early 13th-century Moses Icons at Sinai with the Scenes of the Burning Bush and the Receiving of the Law», *Deltion* 16, 1991-1992, 170-184, F.1.
- NELSON R.S.: «An Icon at Mt. Sinai and Christian Painting in Muslim Egypt during the Thirteenth and Fourteenth Centuries», *the Art Bulletin* 65/2 Jun., 1983, 201-218.
- NELSON R, S.: *Holy Image, Hallowed Ground: Icons from Sinai*, Los Angeles (Getty Trust Publications: J. Paul Getty Museum), 2006.
- PARPULOV, G.R.: «Mural and Icon Painting at Sinai in the Thirteenth Century», In: *Approaching The Holy Mountain Art and Liturgy at St Catherine's Monastery in the Sinai*, Edited by SHARON E. J. Turnhout (Gerstel, Belgium), 2010.
- RONCAGLLA M.P.: « THEOTOKOS», in *Coptic Encyclopedia*, vol. 7, Edited by 'ATIYA 'A. S., 1991, 2251-2252.
- SPRATT EMILY L.: «Toward a Definition of «Post-Byzantine« Art: The Angleton Collection at the Princeton University Art Museum», *Record of the Art Museum, Princeton University*, 2012, 71/72: 2–19. JSTOR 24416383.
- TROSTYANAKIY, S.: «Baptism», *the Encyclopedia of Eastern Orthodox Christianity*, Edited by MCGUCKIN J.A, A Chichester (John Wiley & Sons Publication),2011, 62-71.
- WALTER, Ch.: «Two Notes on the Deisis», *Revue des études byzantines* 26, 1968, 311-336.
- WALTER Ch.: « Bulletin on the Deisis and the Paraclesis», *Revue des études byzantines* 38, 1980, 261-269.
- WEITZMANN K.: «Thirteenth Century Crusader Icons on Mount Sinai», *The Art Bulletin* 45/3, 1963, 179-203.

WEBSITES

- [Http://vrc.princeton.edu/sinai/items/show/6781](http://vrc.princeton.edu/sinai/items/show/6781), 22/7/2020
- [Http://vrc.princeton.edu/sinai/items/show/6664](http://vrc.princeton.edu/sinai/items/show/6664), 15/9/2020
- [Http://thecatholicstalks.com/artspeaks_post.asp-id: 28](http://thecatholicstalks.com/artspeaks_post.asp-id:28), 22/9/2020
- [Http://vrc.princeton.edu/sinai/introduction](http://vrc.princeton.edu/sinai/introduction). 22/9/2020
- [Http://vrc.princeton.edu/sinai/items/show/6827](http://vrc.princeton.edu/sinai/items/show/6827), 22/9/2020
- [Http://vrc.princeton.edu/sinai/items/show/6827](http://vrc.princeton.edu/sinai/items/show/6827), 28/9/2020
- [Http://vrc.princeton.edu/sinai/items/show/6924](http://vrc.princeton.edu/sinai/items/show/6924), 1/10/2020
- [Http://vrc.princeton.edu/sinai/items/show/6597](http://vrc.princeton.edu/sinai/items/show/6597), 22/10/2020
- [Http://vrc.princeton.edu/sinai/items/show/7335](http://vrc.princeton.edu/sinai/items/show/7335), 24/10/2020
- [Http://vrc.princeton.edu/sinai/items/show/7097](http://vrc.princeton.edu/sinai/items/show/7097), 26/10/2020

الديسيس فى تصويرات مصر المسيحية
تصوير للدعاء التشفعى

منال محمود عبد الحميد

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الملخص

نشأ مفهوم الشفاعة فى الأرثوذكسية الشرقية من خلال تلاوة صلاة الشفاعة ومخاطبة المسيح، باعتباره الشفيع الرئيسى، وكذلك الأشخاص المقدسين الآخرين بما فى ذلك العذراء والقديسين والشهداء وحتى الملائكة للتوسط والتشفع نيابة عن المؤمنين وتقديم صلواتهم الى الله. يعتبر «الديسيس» أحد أشكال موضوع الشفاعة والمصور على نطاق واسع فى جداريات وأيقونات مصر المسيحية فى عدة تراكيب مختلفة، لكنه يتكون بشكل أساسى من ثلاثة شخصيات رئيسية؛ المسيح البانتوكراتور محاطاً بالشفيعين الرئيسيين: العذراء مريم ويوحنا المعمدان، ثم تمت إضافة العديد من العناصر والشخصيات الأخرى التى تؤكد قدسية المسيح وممارسة الشفاعة بشكل أساسى. تهدف هذه الدراسة إلى إظهار المكانة الفريدة لمريم العذراء ويوحنا المعمدان فى الليتورجيا الأرثوذكسية ودورهما المهم كشفيعين لخلاص البشرية من خلال الصور المختلفة للديسيس فى مصر المسيحية.

الكلمات الدالة: ديسيس، العذراء، يوحنا المعمدان، التشفع، الخلاص.

2021

TYPES AND FORMS OF «POLYCHROME MARBLE WARE» FROM THE OTTOMAN FORTRESS OF AZAK IN SOUTHERN RUSSIA (CERAMOLOGICAL STUDY)

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TYPES AND FORMS OF «POLYCHROME MARBLE WARE» FROM THE OTTOMAN FORTRESS OF AZAK IN SOUTHERN RUSSIA (CERAMOLOGICAL STUDY)

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ABSTRACT

This ceramological research is devoted to a very rare type of marble-like decorated glazed pottery – «*Polychrome Marble Ware*» – that was discovered during archaeological excavations between 1961 and 2015 in the Ottoman fortress of Azak in the North-East Azov region, Southern Russia. This provided the first possibility to identify and study fragments of this tableware, which are now stored in the stock collections of Azov History, Archaeology and Paleontology Museum-Reserve. The authors of this ceramological research set themselves the following tasks: to study the history of the origin of the Ottoman «*Polychrome Marble Ware*»; to determine the centers of its production and the time of its existence,; as well as to define and classify the types and forms of these vessels, which were encountered during excavations in the Turkish fortress of Azak, by finding analogies in other archaeological sites of the Ottoman time. The research results are reflected in four sections of this article. In our opinion, most of the «*Polychrome Marble Ware*» was brought to the Turkish fortress Azak from Anatolia, where it was produced in the 17th–18th centuries. Among this assemblage, there is clearly also pottery from the coast of the Marmara Sea and the South-East Crimea. Crimean potters, apparently, imitated Italian and Malaysian tableware with marble decor that was then fashionable.

KEYWORDS: Southern Russia, Ottoman fortress of Azak, «*Polychrome Marble Ware*», 17th–18th centuries.

I. INTRODUCTION

The study of ceramic complexes of the remote Ottoman military fortress of Great Porte-Azak (for the Russians, Azov), which was first collected more than half a century ago during archaeological research (beginning 1961) within the territory of this historic Middle Age–Modern site in North-East Azov region (Southern Russia) [FIGURE 1], showed that the imported polychrome tableware included a small percentage of «*Polychrome Marble Ware*». Due to their small number and poor condition, these artefacts had largely been overlooked by researchers who, in the late 20th – early 21st centuries, were studying the archaeological collections stored in the Azov History, Archaeology and Paleontology Museum-Reserve (Azov city, Rostov region). However, a detailed review of the collections from excavations in the 1960s and 1970s at the former Turkish fortress Azak, showed that the inhabitants of these fortifications used such utensils in their daily lives.¹ In the Azov collections, we found 22 fragments of earthenware with marble decoration (17 open-shaped vessels, 3 closed-shaped vessels, 2 jug lids) [FIGURES 2/2-5; 3/ 8; 4/2, 6-8].

In the 1980s and 1990s, archaeological research in the territory of the former Ottoman fortress of Azak was almost stopped. Excavations of this historical site and its surroundings at this time were rare and insignificant in scale. The ceramic collection of the Azov Museum-Reserve during this period was enriched, as it turned out, by only one fragment of a plate with a marble ornament, which was discovered in 1994 in the vicinity of the fortress [FIGURES 2/1].²

A noticeable influx of new ceramics of the Ottoman period into the Azov Museum-Reserve took place in the first two decades of the 21st century, when archaeological research in the territory of Turkish Azak and its districts intensified again. Thanks to the 2004–2015 excavations in Azov,³ the number of «*Polychrome Marble Ware*» increased by another 56 pieces [FIGURES 2/6-9; 3/1-7; 4/1, 3-5].

We firstly discovered the «*Polychrome Marble Ware*» in 79 fragments from archaeological sites of the Ottoman period in the North-East Azov region. This material has been studied, attributed and dated based on an analysis of the results of archaeological excavations in the Turkish fortress of Azak, as well as a search for analogies at archaeological sites around the Black Sea and the Mediterranean. A particular concern at this stage of the study is an identification of the production centers for the «*Polychrome Marble Ware*» that has been found in the northernmost military fortifications of the Ottoman Empire.

¹ КАЗАКОВА 1962; 1963.

² ГУДИМЕНКО 1996: 10.

³ ГУСАЧ 2006: 127-141; МАСЛОВСКИЙ 2010: 216; ГОНЧАРОВА 2012; 2019; ШИРОЧЕНКО 2013; КРАВЧЕНКО 2018: 122-178.

This requires a sufficient series of specialist analyses (primarily concerning the chemical composition of the glazes and of the clay mass). It also requires the collection of a comparative databank from a vast territory that was once part of the Ottoman Empire.

II. HISTORY OF THE «POLYCHROME MARBLE WARE»

Before we proceed to the description of findings from the excavations in the territory of former Ottoman fortresses in the North-East Azov region, it is necessary to give a general description of the «*Polychrome Marble Ware*». This is termed in the literature variously: «*Ceramics with marble-like paintings*»⁴, «*Marmurova ceramics*»⁵, «*B5 Ware*»⁶, «*Marbled Ware(s)*»⁷, «*Marble ceramics*»⁸ and «*Ebrulu seramikler*»⁹. After the publication of J. Vroom on Aegean ceramics from the 7th to the 20th centuries, many researchers began to use the term «*Polychrome Marble Ware*» as had been suggested by her.¹⁰

«*Polychrome Marble Ware*» is a pottery tableware (plates, bowls and jugs) decorated with a particular type of under-glaze decoration, which is generally considered to imitate natural «stains» or «veins» on marble and is, therefore, called «marble décor» or «marble painting». The technique of applying this type of ornament to a surface of the vessel is quite original. A master applies large drops of liquid dye (coloured engobe) of one or more colours to a wet layer of white engobe primer and sets in motion the potter's wheel, on which the vessel sits, periodically changing the direction of its rotation. As a result, the dyes (coloured engobes) are randomly spread (slide) on the surface of the pottery, forming striking «stains» that look like veins on marble. This «marble» effect is often enhanced by the additional application of green dye (copper oxide) to form «blurring» spots or stripes under a layer of transparent lead glaze with a salad or yellowish tint. A Turkish name for this tableware ornamentation technique obviously comes from a similar paper painting technique: «*ebru*».

Medieval fashion for «*Polychrome Marble Ware*» originated in Northern Italy, where it was called «*Ceramica Marmorizzata*» and was produced for sale in many famous Italian cities (Faenza, Savona, Pisa and Florence), according to data from the 2nd half of the 16th century,¹¹ and another dataset from the end of the 15th century.¹²

⁴ КОВАЛЬ 1998.

⁵ БЛЯЄВА 2012: 230.

⁶ RICE 1930: 48-49.

⁷ HAYES 1992: 274; ARMSTRONG & GÜNSENIN 1995: 200.

⁸ KAMADADZE 2016: 246-251.

⁹ BARIŞTA 1998: 70.

¹⁰ VROOM 2005: 165.

¹¹ VROOM 2005: 165; MOORE VALERI 2012: 11

¹² RICE 1930: 48; BAKIRTZIS 1980: 151.

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The peak of production took place at the end of the 16th–17th centuries. The popular forms of Italian pottery of this type were: hemispherical bowls, plates, dishes, bowls, one-handed jugs with a whisk in the form of a trefoil and «flasks»¹³ [FIGURES 5/1-2].

All «*Marmorizzata ceramics*» were red clay and belonged to a «*Slip ware*» category. There were three schemes of ornamentation of Italian vessels with coloured engobes: two-colour (red-white; black-white), three-colour (white-red-black; brown-green-black; white-brown-green; white-brown-black) and four-colour (red-white-brown-green).¹⁴ Normally marble decoration was applied only to the inner surface of open-shape vessels and the outer surface of closed-shape vessels. Northern Italy remained a major exporter of «*Marmorizzata ceramics*» to international markets until the 18th century.

Italian traditions of «*Polychrome Marble Ware*» production spread throughout the Mediterranean and Black Sea regions, including a vast territory of the Ottoman Empire in the 17th and 18th centuries. Imitations of this tableware were found on the Aegean and Marmara Sea coasts, as well as in Europe.¹⁵ In tribute to European fashion at the turn of the 17th–18th centuries, the production of «*Polychrome Marble Ware*» in Russia (in particular, in Moscow) and Ukraine (in Kiev and other pottery centers of the Middle Dnieper) began to be established, and remained in existence until the 19th century¹⁶.

In the territory of the Ottoman Empire, the production of polychrome ware imitating Italian ceramics «*Marmorizzata*» appeared in the 17th century and existed until the 19th century¹⁷. But Ottoman samples of this tableware were externally different from the original Italian «*Marmorizzata*» ceramic products in terms of: the shape of the vessels, the composition and colour of the clay mass, the glazed coating and the very appearance of «marble» decoration. This can be well traced back to the remains of the vessels which, together with the Ottomans, entered the North-East Azov region in the 17th to first third of the 18th centuries, and was discovered during archaeological research of the Turkish fortress Azak [FIGURES 2-4].

¹³ VROOM 2005: 164-165; MOORE VALERI 2012: 21, FIG.23; AMOURIC & et AL. 1999.

¹⁴ MOORE VALERI 2012: 17.

¹⁵ VROOM 2005: 165.

¹⁶ КОВАЛЬ 1998: 227-228; БЛЯЄВА 2012: 231; ЧМИЛЬ 2013: 258.

¹⁷ VROOM 2005: 165.

III. CLASSIFICATION «POLYCHROME MARBLE WARE» FROM THE OTTOMAN FORTRESS OF AZAK

The bulk of the studied group of glazed ceramics from the territory of Azak relate to dinnerware, where the vast majority are fragments of open-shape vessels (93.7% of the total number of ceramics fragments).

Open-Shape Vessels:

1. Plates.

Among the open-shape vessels, the largest number of fragments are from plates (small and deep) with a ring-shaped pallet (more than 44 fragments), which in turn are morphologically divided into four subgroups:

A. Small Plates with Wide Border.

The height of the plates is about 4.0 cm. They have a rounded, semi-oval rim in profile with diameter of 18.0–19.0 cm, which merges with a wide, slightly bevelled inward border (width of the rim is 3.0–4.0 cm). The body is flattened and half-shaped. The ring-shaped pallet is low, narrow, truncated-conical or cylindrical, with a flat base (pallet diameter: 7.0–12.0 cm; pallet height: 0.5–0.6 cm; width: 0.6–0.8 cm). Seven of the Azov fragments belong to this subgroup. All plates are made of pliant brown clay (except one plate of beige clay) on a potter's wheel [FIGURES 2/1-2]. Only the inner surface is decorated, using two simple ornamental schemes:

Scheme N°. 1. Marble «stains» occupy the entire inner surface of the vessel [FIGURES 2/2]; **Scheme N°.2.** Wide vertical strips of underflow on the border and sides of the body, turning into marble «stains» at the bottom of the vessel [FIGURES 2/1].

The pattern is done with brown dye (engobe) on white engobe primer, in four cases with green dye in the form of amorphous spots and «stains». Both surfaces of the plates are covered with semi-transparent lead glaze in salad, yellow or yellow-salad colors; the outer surface is glazed directly on the ceramic. As a rule, the glaze is applied to the entire outer surface of the product, except for the bottom and inner side of the ring-shaped pallet. The only exception is a single fragment of a plate found during excavations in 1978 on the territory of the former Azak fortress. The entire outer surface of this plate was covered with a salad-coloured glaze, including the bottom ring pallet, which is very rare for vessels of this type [FIGURES 2/2].

There are some traces of the use of a clay tripod stand at the bottom of two plates when kiln firing the product. A peculiarity of one of the plates is the presence of two small, concentric, roller-shaped circles on the inner surface of its bottom [FIGURES 2/ 1].

B. Small Plates with a Narrow Border.

The size of these vessels is noticeably smaller than the others (height - about 3.5 cm, diameter of the rim - 15.0–16.0cm), so in our opinion it is appropriate to call them «small plates». They have a rectangular aureole that merges with a narrow (1.4–1.5cm), inward-bevelled border. The plate body is flattened with a hemispherical shape. The pallet is ring-shaped, low, narrow, truncated-conical or subcylindrical, with a flat base (pallet height 0.6-0.7 cm; width 0.5-0.7 cm; diameter 6.0-8.0 cm). The plate sides gradually thicken from top to bottom (0.2 cm to 0.9 cm). According to the fairly large number of fragments found (26 pieces), it was a very common type of dinnerware with marble decoration in Azak. Of these, eight fragments were light clay plates [FIGURES 2/8] and 18 fragments were brown clay plates [FIGURES 2/6-7, 9] made on a potter's wheel.

As with the plates of the first subgroup, two ornamental patterns can be traced in the decoration (N°. 1 and N°. 2), with the second pattern somewhat dominant [FIGURES 2/7-8]. Only the inner surface of the plates is decorated. The ornamentation is applied with a brown dye (engobe) on a white engobe under a translucent lead glaze of green, salad and yellow salad, sometimes with a green tint in the form of amorphous spots and «stains». Brown-clay plates have glaze on both sides, outer surface glazed directly on the ceramic body (except the base and inner part of the ring-shaped pallet on the bottom). For light clay plates, the glaze is applied to the inner side and only to the upper part of the outer side. There are traces of a clay tripod stand at the bottom of one of the plates.

C. Deep Plates with a Narrow Border.

Only 3 fragments of a single plate were found to belong to this subgroup. The corolla of the plate is rectangular in cross-section, with a flattened edge (the diameter of the rim is 21.0-22.0 cm). The rim merges with a narrow (1.5 cm) border, curving strongly outward and inward. The plate body had a hemispherical shape. The plate is made of pinkish brown soft clay on a potter's wheel with no visible inclusions. The whole inner surface of the vessel is decorated with marble. The ornamentation is of brown «stains» on white primer with a green tint in the form of amorphous spots. Both surfaces of the plate are covered with translucent yellow-salad lead glaze, the outer surface being glazed directly on the ceramic [FIGURES 2/3-5].

D. Deep Plates with No Border.

The feature of this not very numerous subgroup of plates (8 fragments) is the lack of a border. The rim is straight and semi-oval in cross-section, with a rounded edge (the rim diameter is 19.0-20.0 cm), merging with the flattened half-spherical body walls [FIGURES 3/1-3]. The plates sat a low, narrow ring pallet that have not survived. The plates had thick sides (0.5-0.8 cm). They are made of light beige (5 pcs.) and brown (3 pcs.) clay thrown on a wheel.

Scheme N°. 2 has been used for the decoration. The glaze is semi-transparent, lead, salad and yellow-salad colors. On brown-clay plates it is applied on both surfaces (on the outer surface, directly on the pottery), and on beige plates It appears on the inner and upper parts of the outer surface on white engobe.

2. Bowls.

This is a very small group in Azak. We were able to track only 8 rim fragments and body shards here, and there are no whole items [FIGURES 4/ 1-4]. All identified samples of bowls are brown-clay, made on a potter's wheel. The shape of the vessels is identical: a straight, semi-oval crown (15.0-16.0 cm in diameter) merging with a hemispherical body, and a low, narrow ring-shaped base. The ornamentation is applied to one of the surfaces – either internal [FIGURES 4/2] or external [FIGURES 4/1, 3-4]. Two patterns of ornamentation can be seen on the inner surface: N°. 1 and N°. 2.

Some of the bowls are decorated with marble «stains» on the outside. The ornamentation is applied with a brown dye (engobe) on a white engobe primer, sometimes with green spots under the transparent lead glaze of salad, lettuce yellow and green. Vessels with ornaments on the inner surface of the vessel have a decor-free outer surface in four cases, without white primer; in two cases (in bowls with striped sides), white engobe is applied only to the top of the vessel.

3. Unidentified Fragments.

Twenty-two fragments of bottoms on ring-shaped bases and the sides of open-shaped vessels decorated with marble ornaments are worthy of a separate description. It is difficult to determine what kind of vessels (plates or bowls) they belong to. Of these, six fragments (five bottoms and one body shard) belong to vessels made of light beige-coloured soft clay [FIGURES 3/4-5]. The remaining 16 fragments (nine bottoms and seven bodyshards) belong to brown clay vessels [FIGURES 3/6-8].

Fragments of light clay ceramics (6 pcs.) obviously belong to thick-walled plates on a low, narrow cylindrical ring-shaped pallet (pallet height 0.7-0.9 cm; width 0.7-0.8 cm; diameter 8.0-10.5 cm; wall thickness 0.5-0.8 cm). The marble decor is applied to the interior surface with a brown dye (engobe) on a white primer (sometimes with green spots) under a translucent lead glaze of green, salad or yellow-salad. The external surface of the vessels was covered with glaze, apparently only at the upper part. The inner side of the bottom of the three fragments is decorated with a small roller-shaped circle, in one case with a dot-shaped convexity in the center [FIGURES 3/4]. On the outer side of the bottom of one of the plates there is graffiti in the form of a sign resembling the letter «A» [FIGURES 3/4]. Technological features of the production can

be seen from the remaining tripod fastening points on the inner side of the vessel bottom.

Brown-clay crockery is represented by nine fragments of donuts on similar ring pallets and seven fragments of body walls. Judging by the shape, size and wall thickness, most of the fragments also belong to plates (pallet height 0.7-0.8 cm; width 0.6-0.8 cm; diameter 8.0-10.0 cm). Three patterns of ornamentation can be traced: to the two patterns described above (scheme N^{os}. 1-2) [FIGURES 3/4-7] a third scheme (scheme N^o. 3) with «stains» and «splashes» was added [FIGURES 3/8]. The surface of one plate is completed with a relief flower rosette inscribed inside two roller-shaped concentric circles at the bottom of the vessel [FIGURES 3/8].

There is such a medallion with a five-petal flower rosette at the bottom of a «red-clay» plate, found in the 17th–18th centuries during archaeological research of the medieval fortress Funa in the Crimea. The inner side of the plate is decorated with wide vertical stripes that turn into marble «stains» (scheme N^o. 2). The ornament is made of brown engobe on white primer under a layer of yellow-green glaze¹⁸.

The decoration on fragments of the bottoms of open-shape vessels from Azak is made in the standard way described above: brown dye (engobe) on white engobe primer, often with coloured green stripes and stains under a layer of translucent lead glaze in green, salad, yellow or yellow-salad. In almost all cases (except three), the entire outer surface of the vessels (except for the bottom and inner side of the ring pallet) is covered with the same glaze directly on the pottery. The bottoms of the three plate fragments are decorated with a small roller-shaped circle (diameter of circles - 3.0-4.0 cm) with a point-shaped convexity in the center. Two concentric roll-shaped circles decorate the bottom of two more plates, which were obviously made in one ceramic center.

Close-Shape Vessels:

1. Jugs.

Only three fragments of the closed vessels decorated with marble ornaments were identified, two of which belong to one jug found on the territory of the Azak fortress in 1978. The jug had a low, narrow, cylindrical neck merging with a straight, semi-oval profiled rim (rim diameter is 7.0 cm). The shoulders of the jug are short and smoothly rounded into a sub-shaped body. The lower part of the vessel has not been preserved. The handle is arched, vertical, narrow and oval in cross-section. The pitcher is made of brown pliant clay with a high lime content on a potter's wheel. The marble decoration, made of brown dye (engobe) on a white engobe primer, obviously covered its entire

¹⁸ МЫЦ 1985: 7-9, FIG.82.

outer surface. The glaze is translucent, lead and yellow salad-coloured, applied to both surfaces of the vessel, and directly on the pottery on the inner surface [FIGURES 4/6].

In 1962, a similar jug body fragment with marble decoration was found in Azov, its decoration of brown dye on white primer with green spots under semi-transparent salad glaze (on the inner side it is applied to the shard)¹⁹. The upper part of the body is additionally decorated with several thin cutting lines in the technique under-engobe engraving. The moulding mass is pliant, brown in colour, with rare lime dot inclusions [FIGURES 4/8].

2. Jug Lids.

The jugs had lids. A total of three lids of the same style were found on the territory of the Azak fortress: with a flat-hemispherical dome that goes into a disc and a button-like handle-holder. The two lids have almost identical dimensions (the height of the lids with a handle is 4.5 cm, the diameter of the lids is 7.0-8.0 cm and the diameter of the handles is 1.2-1.5 cm). They are made in the same ceramic center as the jug found at Azak in 1978. The pattern of ornamentation is similar to that of jars: marble «stains» on the outer surface [FIGURES 4/5, 7].

IV. OTTOMAN CENTERS OF «POLYCHROME MARBLE WARE» PRODUCTION

The biggest difficulty in this study is the question of how to identify the ceramic centers that produced the «*Polychrome Marble Ware*» which came with the Ottomans in the 17th and 18th centuries into the fortress of Azak and the North-East Azov region. Visual observations allow us to identify at least four centers that produced this ceramics from light, predominantly beige, clay, and approximately five centers that produced the same «red clay» dishes. Of the total number of «*Polychrome Marble Ware*» fragments from Azak fortress, the vast majority (61 fragments) belong to «red clay» or, more precisely, brown clay vessels. A significantly smaller number (18 fragments) are light clay vessels.

After studying the morphology, the peculiarities of ornamentation and glazing, and the composition of the moulding mass of the Ottoman «*Polychrome Marble Ware*» from the Azov Museum-Reserve, we were able to draw some preliminary conclusions about their centers of manufacture. In our opinion, open-shape light clay vessels (plates and small plates) were produced in the Ottoman Empire, in roughly four ceramic centers:

Center N^o. 1 It produced «*Polychrome Marble Ware*» made of light beige clay with a high lime content. There are nine such fragments. They belong to the plates and small plates of subgroup 1.2 and 1.4 according to our classification [FIGURES 3/1-2, 4].

¹⁹КАЗАКОВА 1963.

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A distinctive feature of the products of this center is the presence of a small roller-shaped circle on the inner surface of the bottom with a dotted bulge in the center. There is graffiti at the bottom of one of these plates, but this is a single case [FIGURES 3/4]. The glaze is translucent, green and salad-coloured and is applied to the inside of the vessels over vertical stripes and marble dressings made with brown dye on white primer. Apparently, the outer side of the decor and glaze were applied only in the upper part of the plates.

Center N°. 2 Represented by three fragments of plates and small plates of subgroups: 1.2 and 1.4. The dishes were made of similar clay, but with less lime in them. The small and deep plates of this center are decorated with vertical stripes on the inside of the rim and the body, which turn into marble «stains» at the bottom. The translucent salad or yellow-salad glaze covers the entire inner and upper part of the outer surface of the vessel [FIGURES 2/8; 3/3].

Center N°. 3 The masters of center N°. 3 produced their products from light beige-coloured pliant clay, which contains a small amount of lime and chamotte (dotted inclusions). There are five such fragments. They belong to the small plates of subgroup 1.2. The ornamentation is similar to that described above. The glaze is semi-transparent, yellow-salad, applied to the inner and upper parts of the outer surface of the vessel.

Center N°. 4 It made plates with a marble decoration of light beige pliant clay, which contained organic material, but this burned out during firing, as evidenced by the remaining long, narrow pores on the outer surface. Only one fragment of the bottom has been preserved, on a low, narrow, circular tray of an Azak plate decorated with marble «stains» and covered with a layer of semi-transparent salad glaze on the inside and the same glaze on the outside, only on the top of the vessel [FIGURES 3/5].

Publications by Turkish researchers show that unglazed and glazed tableware (including marble decorations) made of light «white» clay, along with pottery made of «red» clay, were produced in two well-known ceramic centers in Istanbul during the Ottoman period-Eyüpsultan (*Eyüpsultan*) and The Tekfour Palace (*Tekfur Sarayı*). Scientists have found that «white» cookware has been produced here since Byzantine times²⁰. *Eyüpsultan*, the famous 17th century traveller Evlia Chelebi, mentioned the pottery district of Istanbul in his notes. According to his information, «white» clay was brought to *Eyüpsultan* from such areas of Istanbul as *Kığithane* and *Sarıyer*, and «red»

²⁰ BARIŞTA 2002: 156-159; YENİŞEHİRLİOĞLU 2007: 359; YENİŞEHİRLİOĞLU 2012: 78-79.

clay from the Golden Horn (*Haliç*) and *Kemerburgaz*²¹. Researchers at the CNRS Ceramology Laboratory in Lyon, France, discovered through a series of chemical analyses that the «white» clay used in *Eyüpsultan* workshops was also used by potters from *Tekfur Sarayı* and other ceramic workshops in Istanbul. This clay is very similar to Byzantine clay and was brought from *Bakırköy-Avcılar* in Istanbul²².

Filiz Yenişehirlioğlu believes that bowls and plates with marble decoration «*ebru*» began to be produced in *Eyüpsultan* in the 17th century. She found the products of this Ottoman ceramic center among vessels excavated in Georgia and in the Sudak fortress in Crimea²³. A more detailed review of her published findings from Sudak revealed that they have parallels in vessels from the Azak fortress, which we attribute to two different centers that produced light clay ceramics with a small content of lime (center N°. 2) and organic inclusions (center N°. 4) in the molding mass. This may indicate that *Eyüpsultan's* potters produced their dishes (including plates with marble decoration) from «white» clay, which they were supplied with from various clays in Istanbul (*Kığıthane*, *Sarıyer*, *Bakırköy-Avcılar* and others). In addition, the products of different masters from the same large center could differ both morphologically (e.g. the shape and size of the pallet) and with special inclusions (e.g. organic) artificially added to the clay by individual potters.

Another decorative element characteristic of the *Eyüpsultan* light clay plates found in Sudak is the presence of two concentric roll-shaped circles at the bottom of one example and one roll-shaped circle with a convex central point in the bottom of another. A similar roller-shaped circle with no dot inside is present at the bottom of a plate from Azak (center N° 4). The same circle with a point-shaped convexity in the center is found at the bottom of other light clay plates (center N°. 1 and center N°. 2) [FIGURES 3/4]. This means that the vessels we categorised as from centers N° 1, 2 and 4 may have been manufactured in the same ceramic center – *Eyüpsultan*.

Örcün Barışta, who conducted excavations in the *Eyüpsultan* district of Istanbul in 1996–1998, in her article on the «marble» ceramics of this center, among others, provides an image of three fragments of light clay plate bottoms with roller-shaped circles. The inner surface of these plates is decorated with white-brown «stains» under a layer of translucent yellow-salad glaze²⁴.

These publications by Turkish archaeologists allow us to conclude that *Eyüpsultan* potters made plates of «white» clay decorated with marble ornaments «*ebru*», which were often decorated with one of three types of roller circles on the inside of the bottom:

²¹ YENİŞEHİRLİOĞLU 2007: 359; YENİŞEHİRLİOĞLU 2012: 79.

²² YENİŞEHİRLİOĞLU 2009: 630.

²³ YENİŞEHİRLİOĞLU 2007: 361, fot.8.

²⁴ BARIŞTA 2002: 157, FIG. 1, 2.

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- 1) Two concentric circles;
- 2) One circle with a dotted bulge in the center;
- 3) One circle without a «dot» in the center.

Potters and many other ceramic centers, including *Tekfur Sarayı*, have obviously successfully used a similar scheme for the bottom of glazed plates. Unfortunately, we do not have samples of pottery produced in the workshops of *Tekfur Sarayı* to draw conclusions about whether this centre's pottery features among the assemblage from Azak. The well-known publications of Turkish researchers on excavations at *Tekfur Sarayı* do not yet clarify this issue.

These findings are also confirmed through study of the «red clay tableware» with marble decoration from Azak, which in the 17th–18th centuries came to the North-East Azov region in much larger volumes than the light clay «marble» tableware. According to our observations, this tableware was produced in approximately five ceramic centers:

Center N^o. 1 It produced vessels of closed (jugs with lids) and open (plates, bowls) shape (15 fragments) from well-treated, pliant, dark brown and red-brown clay with a large admixture of lime (numerous dotted lime inclusions). The glaze is translucent, lettuce, yellow-salad and green, and was applied to both surfaces of the vessels. The white-brown striped marble and marble ornament is sometimes coloured with a green dye. Single-handed jugs are small in size, with a relatively narrow cylindrical neck and shoulder [FIGURES 4/6]. The lids of the jugs are of the same type, small in size, with a flattened hemispherical dome going into the disc and a button-shaped handle-holder [FIGURES 4/5]. Hemispherical bowls in some cases are decorated from the outside [FIGURES 4/1, 4], and in others from the inside [FIGURES 4/2]. Some of the plates belong to subgroups 1.1 [FIGURES 2/2], 1.2 and 1.4; other subgroups are undefined [FIGURES 3/6, 7]. The plates have a low, narrow circumferential, truncated-conical tray with an inner margin at the base. The inner side of the bottom of some of them is decorated with a roller-shaped circle with a dotted bulge in the center [FIGURES 3/7].

Center N^o. 2 Products (19 fragments) are made of soft clay of orange-brown or pink-brown colors with a small admixture of lime. The glaze is translucent, salad, yellow and green in color and is present on both surfaces. The striped marble white-brown decor is in some cases coloured with green dye. All open-shape vessels are plates of subgroup 1.1 [FIGURES 2/1], 1.2 [FIGURES 2/7] and 1.4, as well as several indeterminate bottoms on a low, narrow ring-shaped cylindrical and truncated-conical pallet with an inner

margin at the base [FIGURES 3/8] and one wall of the ceramic body. The fragments of plate bottoms show two concentric roller circles and the traces of a tripod stand [FIGURES 2/ 1]. The bottom of one of the plates is decorated with two concentric circles and a relief image of a floral rosette [FIGURES 3/8].

Center N° 3. It produced jugs with lids [FIGURES 4/7- 8] and plates of subgroup 1.3 [FIGURES 2/3-5] from pliant clay of orange-brown and pink-brown colors with insignificant lime and single inclusions of small grains of black quartz (five fragments). The glaze is salad and is applied to both surfaces. The decoration is of white- brown marble «stains» with green dye undertone. If the impurity of quartz is accidental, then we can assume that this ware was made in center N° 2.

Center N° 4 The potters at this center produced plates with a marble decoration (17 fragments) of light brown pliant clay with little lime and sand admixture (mica glitter). The glaze is translucent, yellow, salad and green in colors and is applied to both surfaces of the vessels. The decoration includes white-brown stripes and marble «stains», sometimes with a green dye under colouring. The center's products only include fragments of open-shape vessels: bowls and plates of subgroup 1.2 and 1.4. Several fragments are undefined. At the bottom of the two plates there are roller-shaped circles, one of which has a «dot» in the center.

Center N° 5 Its products are very limited: only five fragments from four plates, two of which belongs to subgroup 1.2 [FIGURES 2/6, 9). The dishes are made of light brown and orange-brown pliant clay with rare inclusions of lime and chamotte. The glaze is translucent, yellow-salad, applied to both surfaces, in one case obviously only to the inner surface. The decoration is of white-brown marble «stains» with a green tint. Visually, the fabric of the plates is similar to that used for mass glazed dishes in Crimean ceramic workshops. But the morphology and ornamentation of the vessels are similar to the products of the Ottoman workshops described above. Therefore, there is the suggestion that Crimean potters imitated fashionable Ottoman «marble» tableware brought to the Crimea and North-Eastern Azov region from Anatolia and the coast of Marmara Sea in the 17th–18th centuries.

In addition to *Eyüpsultan* and *Tekfur Sarayı's* «Polychrome Marble Ware» ceramic workshops in Istanbul, «red» clay was used in the 17th and 18th centuries to produce pottery from *Çanakkale*, *Ganos (Hoşköy)*, *Didymoteichon (Dimetoka)* and obviously other Ottoman settlements²⁵. Before excavations at *Eyüpsultan*, it was believed that the

²⁵ BAKIRTZIS 1980: 147-195; HAYES 1992: 276; ARMSTRONG & GÜNSENIN 1995: 180; BARIŞTA 1998: 71; BARIŞTA 2002: 158-159; YENİŞEHİRLİOĞLU 2007: 359-361; YENİŞEHİRLİOĞLU 2009: 630; FRANÇOIS & ERSOY 2011: 388, FIG.10-12.

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«*Polychrome Marble Ware*» was only produced at Didymoteichon²⁶. Archaeological research in Ganos confirmed the presence of the local «red» clay «*Polychrome Marble Ware*»²⁷. These excavations have revealed that the clay of Ganos and Didymoteichon products is very similar: red-brown, with a small admixture of lime, which, according to scientists, indicates that one place for its extraction was the clays on the coast of the Sea of Marmara. For this reason, Ganos and Didymoteichon products are often confused. For example, in the opinion of P. Armstrong and N. Günsenin, the remnants of Ganos dishes excavated at *Saraçhane* in Istanbul were mistakenly attributed by J.W. Hayes to the Didymoteichon ceramics (Ware P)²⁸.

Greek researcher Ch. Bakirtzis²⁹ noticed the relief rings at the bottom of glazed plates from Didymoteichon. Similar concentric circles are found at the bottom of glazed plates (including those with marble decor) produced in the 17th–19th centuries at the *Çanakkale* ceramic center³⁰. According to J.W. Hayes, this center's products are very similar to Didymoteichon pottery, but differ in being a darker, richer red clay colour³¹. The similarity between *Çanakkale* and Didymoteichon ceramics is also indicated by G. Öney, assuming that Didymoteichon produced dishes very similar to *Çanakkale* (or vice versa)³². The ceramic centers of *Eyüpsultan* and *Tekfur Sarayı* in Istanbul, as we mentioned earlier, produced «red clay tableware» from the raw materials extracted from the Golden Horn and *Kemberburgaz* clays. However, we do not yet have more detailed information about the composition of this raw material.

Thus, based on data from international researchers, it is possible to make suggestions about the production centers for the Ottoman «marble» ceramics which entered the Turkish fortress of Azak in the 17th–18th centuries with the military contingent. The findings of light clay plates with marble decoration from the Sudak fortress in Crimea, which were found by Turkish explorer F. Yenişehirlioğlu, are a reference point. F. Yenişehirlioğlu referred to the products of the *Eyüpsultan* ceramic center in Istanbul³³, while the remnants of similar plates made of light beige clay with a slight admixture of lime (center N^o. 2 according to our classification) and organic admixture (center N^o. 4) from the excavations in Azak most likely come from the same center. There are the same embossed circles (in different variants: double and single) at the bottom of the Azak plates as on the plates found at *Eyüpsultan*³⁴.

²⁶ YENİŞEHİRLİOĞLU 2012: 84.

²⁷ ARMSTRONG & GÜNSENİN 1995: 198.

²⁸ HAYES 1992: 276; ARMSTRONG & GÜNSENİN 1995: 180.

²⁹ BAKIRTZIS 1980, FIG.26, 27, 29b.

³⁰ DOČER 2009: 32-33, 45, TAB. 3.

³¹ HAYES 1992: 276.

³² ÖNEY 2007: 369.

³³ YENİŞEHİRLİOĞLU 2007: 361, fot. 8.

³⁴ BARIŞTA 1998: 71, fot.103; BARIŞTA 2002: 157, fot.1, 3.

Since potters of *Eyüpsultan* and *Tekfur Sarayı* used the same clay from Istanbul, as well as similar surface design techniques for their ceramics, the products of these centers must be very similar. It is possible that among the fragments of marble decor crockery from Turkish fortress of Azak in North-East Azov region there are products from the *Tekfur Sarayı* workshops.

In our opinion, the «marble» plates of Azak made of pliant clay in orange-brown and pink-brown with a small amount of lime, which have double embossed rings on the bottom (center N^o. 2) [FIGURES 2/1, 3/8], probably come from the Didymoteichon or Ganos ceramic workshops, or both, which had the same raw material base on the coast of the Sea of Marmara and similar clay products. The low, narrow circular pallet of these plates has an inner margin on its base similar to those of Didymoteichon, which J.W. Hayes described in his study³⁵.

The fragments of the plate and the jug we assigned to center N^o. 3 [FIGURES 2/3- 5; 4/7-8] were presumably also made by Didymoteichon or Ganos potters. However, the presence of single quartz inclusions in the moulding mass of these vessels may also indicate that they were produced in *Çanakkale*. And finally, the products of center N^o. 5, in our opinion, are an imitation of the Ottoman «*Polychrome Marble Ware*» by the Crimean pottery workshops [FIGURES 2/6, 9]. Defining the remaining centers is still very problematic.

V. DATING «POLYCHROME MARBLE WARE» FROM THE OTTOMAN FORTRESS OF AZAK

Azak Ottoman fortress has a longer history. In 1475, the troops of the Turkish Sultan Mehmed II the Conqueror captured the stone castle of the Italian colony Tan at the mouth of the Don, turning it into the northernmost fortification of the Ottoman Empire – Azak fortress. Turkish domination lasted here until 1696, when the fortress was conquered by the army of the Russian Tsar Peter the Great. In 1712, the Ottomans returned to Azak, which again fell back to them under the terms of the peace treaty after the unsuccessful Prut campaign of Peter the Great in 1711. In 1736, Turkish Azak was reconquered by the Russian army of Tsarina Anna Ioannovna. The last period of the existence of the Ottoman Azak fortress dates back to 1712–1736.

Despite such a rich history, the findings of the «*Polychrome Marble Ware*» from the excavations of Azak fortress come from a restricted cultural layer of the end of the 17th century to the first third of the 18th century.

³⁵ HAYES 1992: 276-277.

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This pottery is similar to the pottery from the fortress of Sed-Islam, built by the Ottomans on the neighboring branch of the Don River – the Dead Donets River – in 1660. The year 1741 is known from written sources for the destruction of the Turkish Sed-Islam fortress under the Treaty of Belgrade (1739). Both «Turkish» (1660-1696; 1712-1736) and «Russian» (1669-1711; 1736-1741) periods of the fortress are known due to its transition from hand to hand during the three Russian- Turkish wars of 1686–1699, 1710–1713 and 1735–1739³⁶. Thus, the existence of «*Polychrome Marble Ware*» in Sed-Islam is divided into two narrow time periods, defined by two «Turkish» periods in its history – from 1660 to 1696 and from 1712 to 1736.

Unfortunately, large-scale fortification works in Azov, which unfolded by order of Peter the Great at the turn of the 17th–18th centuries, brought a lot of ambiguity to the stratigraphy of this archaeological monument. However, research by Azov archaeologists in recent years on the territory of Turkish Azak bring more and more new findings, which directly or indirectly confirm the validity of the initial dating of the Ottoman «*Polychrome Marble Ware*» – not before the 17th century and not later than 1736³⁷.

Archaeological findings of «*Polychrome Marble Ware*» in the territories that were formerly part of the vast Ottoman Empire, as well as in the adjacent lands, generally date back to the same time - the 17th–18th centuries. Fragments of «*Polychrome Marble Ware*» have been discovered during archaeological research of former Ottoman fortresses and their surroundings: Akkerman and Kamenets-Podolsky in Ukraine³⁸ [FIGURES 5/5], Balaklava, Sudak, Mangup, Funa, Arabat in Crimea³⁹, Gonio, Batumi and Narikala in Georgia⁴⁰ [FIGURES 5/3-4]. They were also found during excavations in Romania⁴¹, Hungary⁴², and the Taman Peninsula in Russia⁴³ [FIGURES 5/7]. There is also reference to the discovery of «*Polychrome Marble Ware*» during excavations in Partenit⁴⁴ and the Çufut Qale fortress in the Crimea, in Kiev in Ukraine⁴⁵, etc.

³⁶ ДОНСКІЯ ДѢЛА 1917: 730-731; ЧЕЛЕБИ 1979: 208-212.

³⁷ ГУСАЧ 2006: 134, 137; МАСЛОВСКИЙ 2010: 216; КРАВЧЕНКО 2018: 124-159; ГОНЧАРОВА 2019: 95-98, etc.

³⁸ БЛЯЄВА 2012: 230-231, FIG.95, 115; СТРОЦЕНЬ & et AL. 2015-2016: 18-19.

³⁹ ДАНИЛЕНКО & РОМАНЧУК 1969: 126, ТАВ. 5, FIG. 49-50; МЫЦ 1985: 8-9, FIG. 82; YENIŞEHİRLİOĞLU 2007: 356, fot. 8; ГЕРЦЕН & КОЛТУХОВ 2009: 154-155, FIG. 13, 8.

⁴⁰ КАМАДАДЗЕ 2016: 250-251.

⁴¹ VOINEA et AL. 2016, FIG.17/1-3, FIG.20/ 7-8).

⁴² АТТИЛА 2016: 291, ТАВ. 2, 3 а-с.

⁴³ ГОРОШНИКОВ & КЛАДЧЕНКО 2015: 25, FIG.3, 14; ЗИЛИВИНСКАЯ 2016: 160-183, FIG.2730, 2798, 2936.

⁴⁴ АЛЯДИНОВА 2015: 461, FIG.16, 49.

⁴⁵ ЧМИЛЬ 2013: 258.

In addition to the aforementioned Istanbul findings, the remains of «*Polychrome Marble Ware*» of the 17th and 18th centuries have been found in modern Turkey as well, during archaeological research on the Ottoman fortresses of Bitlis⁴⁶, Sham⁴⁷, Enes⁴⁸, Izmir⁴⁹, Tyre (Kutu Khan)⁵⁰ and others [FIGURES 5/6, 8-9].

VI. CONCLUSION

Summing up our research, it should be noted that in the 17th to the first third of the 18th centuries, small quantities (a total of 79 fragments over fifty years of excavation) of «*Polychrome Marble Ware*» were brought in to the Turkish fortress of Azak with the military contingent and through traders. These vessels were produced in various ceramic centers of the Ottoman Empire. The small volumes of such tableware supplied to North-East Azov region testify to its high cost, due to the great popularity associated with the medieval fashion for Italian «*Marmorizzata*» ceramics and its Ottoman imitations, as well as to the significant distance between the Azak fortress and the ceramic centers where the Ottoman «*Polychrome Marble Ware*» was produced.

The main group of vessels from Azak (93.7%) consists of fragments of open-shape containers - bowls and plates, which we divided into 4 subgroups by morphological features. The remains of the closed-shaped vessels are isolated. These are fragments of small jugs (2.5%) with lids (3.8%).

There are many more «red-clay» products with marble ornaments than light clay products (77.2% red-clay; 22.8% light-clay). Among light-clay tableware vessels, only open forms are present, mainly plates. One of these plates has graffiti on the outside of the bottom. The assortment of «red-clay» products by Ottoman potters is more diverse – bowls, plates, and jugs and their lids.

In the «*Polychrome Marble Ware*» ornamentation from the Turkish fortress of Azak, we can trace 3 main schemes:

- 1) marble «stains», which occupy the entire outer surface of the product (bowls, jugs, lids) or the entire inner surface of the product (bowls, plates);
- 2) wide vertical stripes passing into marble «stains» on the inner side of the vessel (only on plates and bowls).
- 3) decor in the form of splash marks with marble «stains».

⁴⁶ BAŞ 2012: 117, kat.5.4.

⁴⁷ FRANÇOIS 2012: 504, pl. 5/3.

⁴⁸ BAŞARAN 2001: 382, res.5.

⁴⁹ DOČER 2009: 45, TAB. 3 b, d; GÖK 2015: 67, tab.2.

⁵⁰ UÇAR 2018: 4-5.

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In all cases, the decoration is made with white and brown engobe, sometimes with a greendye. An additional element in plate decoration is often a roller-shaped circle in the centre of the inner surface of the bottom (twin and single, with a convex «dot» in the center). As this technique was developed, masters of many Ottoman ceramic centers evidently designed their products with such relief rings.

The glaze used in Ottoman tableware with marble decoration is lead, semi-transparent, yellow, lettuce, salad and green, often of rather poor quality (with undissolved dye particles). In «red-clay» vessels, both surfaces are covered with it, except for the inside of the pallet and bottom of the plates. However, there are rare instances of plates where both surfaces are completely glazed. In light-clay plates, the glaze is usually applied to the inside and top of the outer surface. The technological details of plate production are often traced as tripod marks on the inner side of the bottom.

Visual observations of the composition of the fabric, ornamentation and surface design of «*Polychrome Marble Ware*» from Azak allowed us to conditionally divide them into several groups according to proposed production centers (4 groups for light-clay vessels, 5 groups for «red-clay» vessels). Based on the research results of international scientists (and primarily Turkish archaeologists), we attempted to identify production centers for these ceramics. Our preliminary scheme (which obviously requires laboratory testing), suggests such centers could be *Eyüpsultan* and *Tekfur Sarayı* in Istanbul, as well as Didymoteichon (tour - *Dimetoca*) and Ganos (tour - *Hosköy*) on the coast of the Sea of Marmara. Products from *Çhanakkale* and other ceramic centers in the Ottoman Empire are also likely to be among the assemblage. At this stage of research, it is not yet possible to define the production centers further.

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BIBLIOGRAPHY

- АЛЯДИНОВА, Д.Ю.: «Керамика османского времени из раскопок Партенита» («Ottoman ceramics from Partenit excavations»), В: *Древняя и средневековая Таврика, Археологический альманах №32* (In *Ancient and medieval Taurica, Archaeological Almanac № 32*), Киев 2015, 452-480.
- БЛЯЄВА, С.: *Слов'янські та тюркські світи в Україні (Slavic and Turkic communities in Ukraine)*, Київ: Університет «Україна» 2012.
- ГЕРЦЕН, А. & КОЛТУХОВ, С.: «Археологические работы в Арабатской крепости», В: *Северное и Западное Причерноморье в античную эпоху и средневековье* («Archaeological Works in the Arabatskaya Fortress», In *Northern and Western Black Sea Region in the Ancient Age and Middle Ages*), Симферополь 2009, 144-172.
- ГОНЧАРОВА, С.М.: *Отчет об археологических раскопках на территории г. Азова в 2011 году*, т.1 (Archeological researches in Azov in 2011, vol.1), Азов 2012.
- ГОНЧАРОВА, С.М.: *Отчет об археологических раскопках на территории г. Азова Ростовской области в 2012-2013 гг.*, т. 2, 4 (Archeological researches in Azov, Rostov region in 2012-2013, vols. 2, 4), Азов 2019.
- ГОРОШНИКОВ, А.А. & КЛАДЧЕНКО, О.В.: «Керамика турецкого времени поселения «Волна-12» на Тамани», В: *Крым в войнах России, Материалы Всероссийской научной конференции, Ростов-на-Дону, 19-21 октября 2015 г.* («Ceramics of Turkish time settlement «Wave-12» on Taman», In *Crimea in the wars of Russia, Materials of the All-Russian Scientific Conference, Rostov-on-Don, 19-21 October 2015*), Ростов-на-Дону: издательство ЮНЦ РАН 2015, 20-25.
- ГУДИМЕНКО, И.В.: *Отчет о спасательных археологических раскопках в г.Азове по ул. Ленинградской, 29 в 1994 году* (The report on the rescue archeological excavations in Azov, in 29 Leningradskaya St. in 1994), Азов 1996.
- ГУСАЧ, И.Р.: «Археологические исследования на территории турецкой крепости Азак», В: *Историко-археологические исследования в Азове и на Нижнем Дону в 2004 г.*, вып. 21 («The archeological researches on the territory of the Turkish fortress Azak», In *Historical and Archaeological Research in Azov and the Lower Don in 2004*, issue 21), Азов 2006, 127-141.
- ДАНИЛЕНКО, В.Н. & РОМАНЧУК, А.И.: «Поливная керамика Мангупа», В: *Античная древность и Средние века 6, Ученые записки УрГУ, Серия историческая*, вып.17 («Glazed Ceramics of Mangup», In *Ancient Antiquity and the Middle Ages 6, Scientists' Notes of Ural State University, Historical series*, issue 17), Свердловск 1969, 116-138.
- Донскія дела*, Т. XXXIV, Кн. 5. (Don affairs, T. XXXIV, Book 5), Петроград: типография Министерства земледелия 1917.
- ЗИЛИВИНСКАЯ, Э.Д.: *Отчет о раскопках поселения и могильника «Соленый-2» в Темрюкском районе Краснодарского края в 2016 году*, т.1, 12 (Report on excavations of the Salty-2 settlement and cemetery in the Temryuk District of the Krasnodar Region in 2016, vol.1, 12), Санкт-Петербург 2016.
- КАЗАКОВА, Л.М.: *Отчет о работах, проведенных Азовским историко-краеведческим музеем в ходе наблюдения за земляными работами в г. Азове с сентября 1961 году* (The report on the works of Azov Museum-Reserve during the observations of the excavation works in Azov since September 1961), Азов 1962.
- КАЗАКОВА, Л.М.: *Отчет об археологических работах музея в г. Азове в 1962 г.* (The report on the works of Azov Museum-Reserve during the observations of the excavation works in Azov in 1962), Азов 1963.
- КОВАЛЬ, В.Ю.: «Позднесредневековая глазурованная керамика с мраморовидной росписью», В: *Тверь, тверская земля и сопредельные территории в эпоху средневековья*, вып.3 («Late Medieval Glazed Ceramics with Marble Paintings», In *Tver, Tver Land and Neighbouring Territories in the Middle Ages*, issue 3), Тверь 1998, 222-229.

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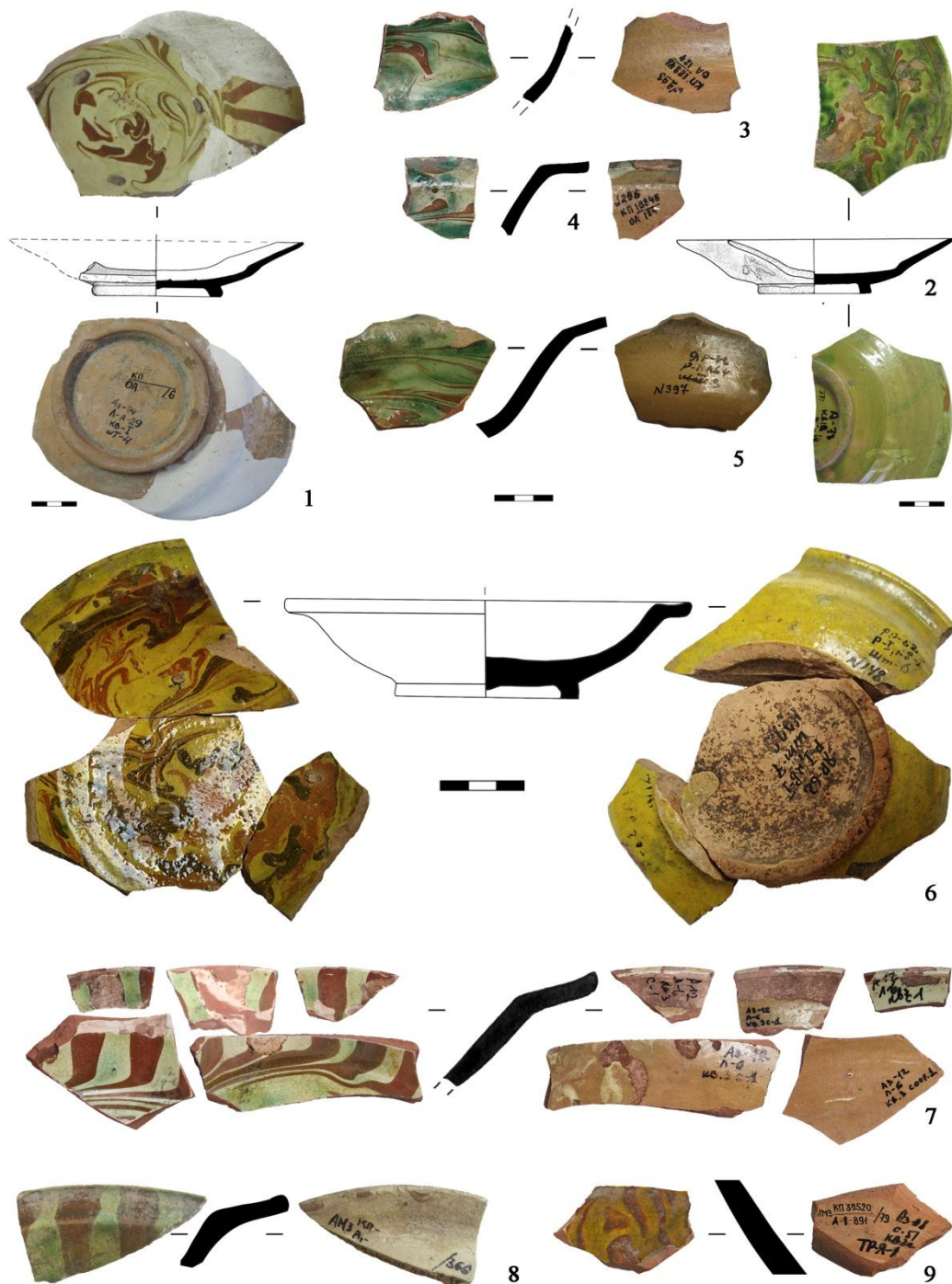
- КРАВЧЕНКО, С.А.: «Археологические исследования в г. Азове и Азовском районе в 2015 году» В: *Историко-археологические исследования в Азове и на Нижнем Дону в 2015-2016 гг., вып.30* («Archaeological research in Azov and Azov district in 2015», In *Historical and Archaeological Research in Azov and the Lower Don in 2015-2016, issue 30*), Азов 2018, 122-178.
- МАСЛОВСКИЙ, А.Н.: «Археологические исследования в городе Азове и Азовском районе в 2007-2008 гг.», В: *Историко-археологические исследования в Азове и на Нижнем Дону в 2007-2008 гг., вып.24* («Archaeological research in Azov and Azov district in 2007-2008», In *Historical and Archaeological Research in Azov and the Lower Don in 2007-2008, issue 24*), Азов 2010, 182-242.
- МЫЦ, Б.Л.: *Отчет об археологических исследованиях средневековых укреплений Алустан и Фуна в 1985 году (Report on the Archaeological Research of the Medieval Fortifications Of Aluston And Funa in 1985)*, Симферополь 1985.
- СТРОЦЕНЬ, Б.С., НЕЧИТАЙЛО, П.О., ПАШКОВСКИЙ, О.А., ПЕФТИЦЬ, Д.М. & НЕЧИТАЙЛО, А.О.: *Звіт про пам'яткоохоронні дослідження на території Національного історико архітектурного заповідника по вулиці Довга, 2/11 м. Кам'янець-Подільський Хмельницької області у 2015 році (Report on Monument and Conservation Studies on the Territory of the National Historical and Architectural Reserve at 2/11 Dolgaya Street in Kamyanets-Podilsky Khmelnytsky Region in 2015)* Кам'янець-Подільський 2015-2016.
- ЧЕЛЕБИ, Э.: *Книга путешествия. Извлечения из сочинения турецкого путешественника XVII в., вып.2, Земли Северного Кавказа, Поволжья и Подонья (Book of Travel. Extracts from the work of the Turkish traveler of the XVII century, issue 2, Lands of the North Caucasus, Volga Region and the Don Region)*, Москва: Наука 1979.
- ЧМИЛЬ, Л.В.: «Один из видов росписи под поливой XVII-XVIII вв.», В: *Могілянські читання 2012* («One of the Types of Paintings Under Glaze of the XVII-XVIII Centuries», In *Mogilian readings 2012*), Київ 2013, 256-260.
- ШИРОЧЕНКО, Э.Б.: *Отчет о спасательных археологических раскопках городища и могильника Азака в г. Азове Ростовской области в 2009 году, т.1 (Report on the rescue archeological Excavations of The Ancient Settlement and Azak Cemetery in Azov, Rostov Region in 2009, vol.1)* Азов 2013.
- AMOURIC, H., RICHEZ, F. & VALLAURI, L.: *Vingt mille ports sous les mers. Voyages extraordinaires. Editions Édisud. Musée d'Istres (27 mai — 28 novembre 1999). Aix-en-Provence: Édisud 1999.*
- ARMSTRONG, P. & GÜNSENIN, N.: «Glazed pottery production at Ganos», In *Anatolia Antiqua. Eski Anadolu 3*, Paris: Institut Français d'études Anatoliennes d'Istanbul 1995, 179-201.
- ATTILA, G.: «16-18. Szàzadi leletek a szekszàrdi török palànkvar környezetéből», In *A Wosinsky Mór Múzeum Évkönyve 38*, Szekszárd 2016, 285-327.
- BAŞARAN, S.: *Enez (Ainos) 1999 Yılı Kazı Çalışmaları, 22. Kazı Sonuçları Toplantısı, C.2*, Ankara: Kültür Bakanlığı Yayınları 2001, 371-386.
- BAŞ, G.: *Bitlis Kalesi Kazısı Sırlı Seramikleri*, Ankara: PEGEM Akademi Yayınları 2012.
- BAKIRTZIS, Ch.: «Didymoteichon: un centre de céramique post-byzantine», In *Balkan Studies*, vol. 21, №1, Thessaloniki 1980, 147-195.
- BARIŞTA, H.Ö.: *Türk el sanatları, ilaveli 2*, Ankara: Kültür Bakanlığı 1998.
- BARIŞTA, H.Ö.: «Istanbul Eyüpsultan seramikleri», In *Uluslararası Dördüncü Türk Kültürü Kongresi*, Ankara 1999, 85-93.
- BARIŞTA, H.Ö.: «Eyüp Sultan'dan Ebru Desenli Seramik ve Çiniler», In *Eyüp Sultan Sempozyumu III, Eyüpsultan Belediyesi*, Istanbul 2002, 156-163.

- BLAKE, H.: «Pottery exported from Northwest Italy between 1450 and 1830: Savona, Albisola, Genoa, Pisa and Montelupo», In *Archaeology and Italian Society, Prehistoric, Roman and Medieval Studies, BAR International Series*, vol.102, Oxford 1981, 99-124.
- DOĞER, L.: *İzmir Agorası Kazılarında 17.-19. Yüzyıl Seramik Buluntuları Üzerine Bazı Gözlemler, Sanat Tarihi Dergisi*, Sayı XVII/1, İzmir 2009, 23-54.
- FINDIK, N.Ö.: «Osmanlı Devri Seramik Sanatı», In *Türkler, Gazi Üniversitesi Fen-Edebiyat Fakültesi, Türkiye* 2017, 375-384, <https://www.altayli.net/osmanli-devri-seramik-sanati.html>.
- FRANÇOIS, V. & ERSOY, A.: «Fragment d'histoire: la vaisselle de terre dans une maison de Smyrne au XVIII es.», In *Bulletin de correspondance hellénique*, vol.135, livraison 1, 2011, 377-419.
- FRANÇOIS, V.: «Objets du quotidien à Damas à l'époque ottoman», In *Bulletin d'études orientales* 64 , 2012, 475-506.
- GÖK, S.: «İzmir'in Ticari Yaşamında Osmanlı ve Avrupa Seramiklerinin Yeri, Smyrna», In *İzmir Kazı ve Araştırmaları I, Çalıştay Bildirileri, İstanbul: Ege Yayınları* 2015, 61-78.
- HAYES, J.W.: *Excavations at Saraçhane in Istanbul*, vol.2, Oxford (Princeton University Press) 1992.
- KAMADADZE, K.: «Marble» Ceramics from the Monuments of South-West Georgia», In *South-West Georgia (history, archaeology), International Scientific Conference materials*, VI, Tbilisi 2016, 246-251.
- MOORE VALERY, A.: «Marbleized pottery in Tuscany (1550-1650)», In *Medieval Ceramics, Journal of the Medieval Pottery Research Group*, vol.33, 2012, 10-23.
- ÖNEY, G.: *Türk Devri Çanakkale Seramikleri*, Ankara: Çanakkale Seramik Fabrikaları A.Ş. Yayınları 1971.
- ÖNEY, G. (ed.): «Çanakkale Seramikleri», In *Anadolu'da Türk Devri Çini ve Seramik Sanatı*, Ankara: Kültür ve Turizm Bakanlığı Yayınları 2007, 365-375.
- RICE, D.T: *The Byzantine Glazed Pottery*, London 1930.
- UÇAR, H. & UÇAR, A.: «Tire Kutu Han Kazısı Beylikler Ve Osmanlı Dönemi Seramikleri», In *Sanat Tarihi Dergisi*, XXVII, 1 Nisan /April 2018, 2018, 1-33.
- VOINEA, V.M., SZMONIEWSKY, B. SZ., POPESCU, A., MOTOTOLEA, A. & FLOREA, M.: «The rural landscape in Dobruja in the Ottoman period, New discoveries from Cheia – Pazvant sites, county Constanta, Romania», In *Journal of Aegean and Balkan Studies*, vol.2 (2016-1), issue 3, İzmir 2016, 155-200.
- VROOM, J.: «Polychrome Marbled Ware», In *Byzantine to modern pottery in the Aegean (7th to 20th century), An introduction and field guide*, Netherlands Utrecht: Parnassus Press 2005, 164-165.
- YENİŞEHİRLİOĞLU, F.: «Tekfur sarayı çini fırınları kazısı 1995-2001», In *24. Kazı sonuçları toplantısı, 1. Cilt (27-31 Mayıs 2002), Kültür Bakanlığı Döşim Basımevi*, Ankara 2003, 329-344.
- YENİŞEHİRLİOĞLU, F. (ed.): «Tekfur Sarayı Çinileri ve Eyüp Çömlekçiliği», In *Anadolu'da Türk Devri Çini ve Seramik Sanatı*, İstanbul: Kültür ve Turizm Bakanlığı Yayınları 2007, 349-361.
- YENİŞEHİRLİOĞLU, F.: «Les fours et la production des céramiques du Palais de Tekfur a Istanbul», In *Actas del VIII Congreso Internacional de Cerámica Medieval, Ciudad Real*, vol. 2, 2009, 617-632.
- YENİŞEHİRLİOĞLU, F.Ç.: «İstanbul Arkeolojisi ve Çini, Seramik Üretim Merkezleri», In *İstanbul Araştırmaları Yıllığı, I*, İstanbul 2012, 77-99.

TYPES AND FORMS OF «POLYCHROME MARBLE WARE» FROM THE OTTOMAN FORTRESS OF AZAK IN SOUTHERN RUSSIA (CERAMOLOGICAL STUDY)



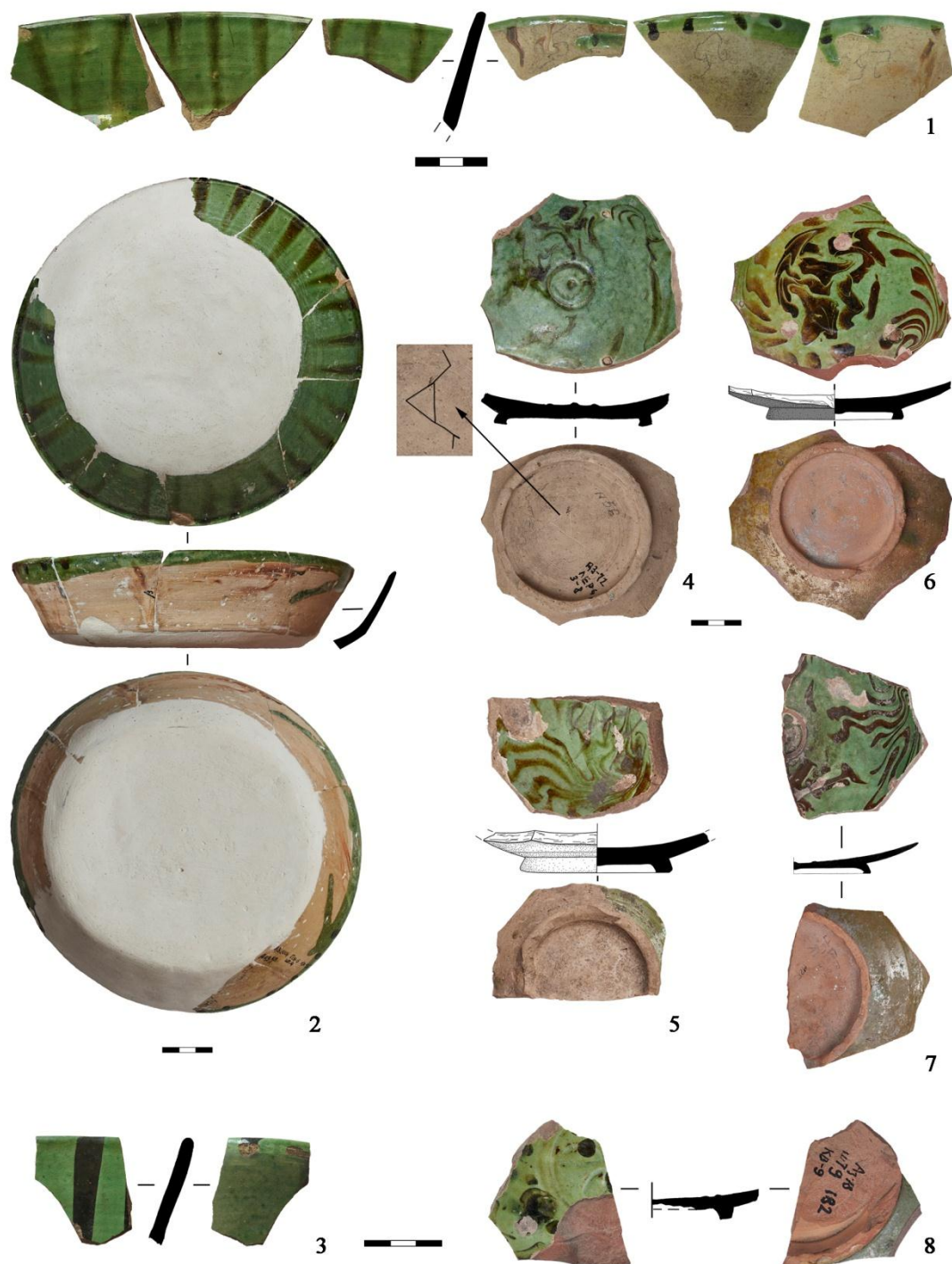
[FIGURE 1]: Location of the Ottoman fortress of Azak in the North-Eastern Azov region, Southern Russia, <https://www.google.com/maps/@47.170804,39.4282221,11.54z>



[FIGURE 2]: «Polychrome Marble Ware» (17th-18th centuries) from the Ottoman fortress of Azak (N^os 1-9). Open-shape vessels: Group 1. Plates: N^os 1, 2 – subgroup 1.1; N^os. 3-5 – subgroup 1.3; N^os. 6-9 – subgroup 1.2. From the collection of the Azov Museum-Reserve (Azov).

Photos by IRINA GUSACH, 2020.

TYPES AND FORMS OF «POLYCHROME MARBLE WARE» FROM THE OTTOMAN FORTRESS OF AZAK IN SOUTHERN RUSSIA (CERAMOLOGICAL STUDY)



[FIGURE 3]: «*Polychrome Marble Ware*» (17th-18th centuries) from the Ottoman fortress of Azak (N^os. 1-8). Open-shape vessels: Group 1. Pls: N^os. 1-3 – subgroup 1.4; N^os. 4-8 – unidentified fragments. From the collection of the Azov Museum-Reserve (Azov, Russia).

Photos by IRINA GUSACH, 2020.



[FIGURE 4]: «Polychrome Marble Ware» (17th-18th centuries) from the Ottoman fortress of Azak (N^{os}. 1-8). Open-shape vessels: Group 2. Bowls (N^{os}. 1-4). Close-shape vessels: Group 1. Jugs (N^{os}. 6, 8); Group 2. Jug lids (N^{os}. 5, 7). From the collection of the Azov Museum-Reserve (Azov).

Photos by IRINA GUSACH, 2020.

TYPES AND FORMS OF «POLYCHROME MARBLE WARE» FROM THE OTTOMAN FORTRESS OF AZAK IN SOUTHERN RUSSIA (CERAMOLOGICAL STUDY)



[FIGURE 5]: «Marmorizzata» ceramics. Northern Italy (16th-17th centuries): 1 – Pisa (AMOURIC & AL. 1999: FIG. 212); 2 – Tuscany. (MOORE VALERI 2012: FIG. 22); «Polychrome Marble Ware» (17th-18th centuries): 3, 4 – Gonio, Georgia (photos by IRINA GUSACH); 5 – Kamentz-Podolsk, Ukraine (photo by PAUL NECHITAYLO); 6 – Izmir, Turkey. (FRANÇOIS & ERSOY 2011: FIG.9; 7 – Kholmsky-25, Russia (photo by ALEX NECHIPORUK); 8, 9 – Istanbul (BARIŞTA 2002: fot.3, 10).

طرز وأنواع «الفخار المظلي متعدد الألوان على شكل رخام»
من قلعة آزاك العثمانية بجنوب روسيا (دراسة أثرية)

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الملخص

يهتم هذا البحث بدراسة نوع نادر جداً من الفخار المظلي متعدد الألوان على شكل الرخام «Polychrome Marble Ware» والذي تم اكتشافه خلال أعمال الحفر والتنقيب الأثرية في جنوب روسيا بين عامي ١٩٦١ و ٢٠١٥ في قلعة آزاك العثمانية في منطقة شمال شرق آزوف، وتعتبر هذه الدراسة من الدراسات النادرة في روسيا التي تلقى الضوء على أهمية تلك الأواني والشقاقات الفخارية المحفوظة في مجموعات بمخازن متحف آزوف للتاريخ والآثار وعلم الحفريات. وقد اهتم الباحثين خلال الدراسة العلمية الأثرية بتاريخ وتأصيل شقاقات الفخار المظلي متعدد الألوان، وتحديد مراكز الإنتاج وتاريخ الصناعة، وكذلك تحديد وتصنيف أنواع وأشكال هذه الأواني الفخارية التي تم اكتشافها أثناء التنقيب في قلعة آزاك التركية، ومحاولة خلق نوع من المقارنة مع مكتشفات مواقع أثرية أخرى من العصر العثماني. تلك المحاولات التي تم التوصل من خلالها إلى أن معظم الأواني الفخارية متعددة الألوان على شكل الرخام -موضوع الدراسة- تم جلبها إلى قلعة آزاك التركية من الأناضول حيث تم إنتاجها خلال القرنين (١١-١٢هـ / ١٧-١٨م). كما تم التوصل إلى وجود نوع جديد من الفخار المظلي مجلوب من ساحل بحر مرمرة و جنوب شرق شبه جزيرة القرم، وعلى ما يبدو أن خزافي القرم قاموا بتقليد الأواني الفخارية الإيطالية والماليزية ذات الزخارف الرخامية والتي كانت منتشرة لديهم في ذلك الوقت.

الكلمات الدالة: جنوب روسيا، قلعة آزاك العثمانية، الفخار المظلي متعدد الألوان، القرنين السابع عشر والثامن عشر.



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ANALYTICAL STUDY OF THE ARCHAEOLOGICAL LEATHER DOCUMENT PRESERVED IN EGYPTIAN MUSEUM AND NEW PROPOSAL FOR MUSEUM EXHIBITION

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ANALYTICAL STUDY OF THE ARCHAEOLOGICAL LEATHER DOCUMENT PRESERVED IN EGYPTIAN MUSEUM AND NEW PROPOSAL FOR MUSEUM EXHIBITION

By

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ABSTRACT

This study was done on an archaeological leather document preserved in Egyptian Museum storeroom under N°. JE90809 SR 5/13677, excavated in 1966. The leather document showed different aspects of deterioration types. Different analytical methods were used for identifying the components of the leather document to explain its mechanism of deterioration process. Analytical methods used were: visual assessment, documentation process by high resolution camera and scanner in multispectral imaging (MSI), diagnostic examinations using Multi Spectral Imaging (VIS-UV-IR), isolation and identification of different types of fungi, investigation of the surface morphology and animal type using digital light microscope (Dino light), stereo microscope (S.M.) and polarizing microscope (P.M.), identification of ink binder, amino acids degradation and tanning materials by Fourier transformation infrared spectrophotometry (FTIR). It is a qualitative analysis to give general information concerning collagen, identification of inks by X-ray diffraction (XRD), and measuring the thickness by micro meter. In addition to suggesting a new method for museum exhibition for the archaeological leather document as the preparation of a new method of exhibition is considered one of the most important goals of this study, because the current method of exhibition is regarded as a major reason for the deterioration of the studied document.

The results revealed that the microscopic examinations of samples clarify that the type of skin used was sheep in comparison with the standard samples. It also explained the deformation of the appearance, contaminations from stains and dusts, and damages caused by physical factors. X-ray diffraction results showed that the ink used was made of carbon black ink. In addition, the results showed that thickness measurement numbers were different which indicate somehow that the manufacturing process was not so perfect. The results of FTIR proved also the degradation of the collagen in the archaeological leather document, the binding agent was Arabic gum and the leather was tanned with vegetable tanning. Isolation and identification of micro-organisms clarified that the most dominant fungi isolated from the archaeological leather document were: *Aspergillus niger*, *Aspergillus sulphureus*, *Aspergillus versicolor*, *Aspergillus sydowii*, *Penicillium chrysogenum*, *Penicillium islandicum*, *Alternaria alternata*, *Aspergillus flavus*, and *Aspergillus terreus*. Finally, the storage of the leather document was very poor which led to different aspects of deterioration. That prompted the authors to suggest a new method for exhibition for the archaeological leather document.

KEYWORDS: Micro Organisms, Degradation, FTIR, Inks, Tanning, Fungi, Exhibition.

I. INTRODUCTION

Leather as a material represents complex composition. Leather tanned from raw hides and skins has been used to cover and protect the human body since early man. Animal skins have been used since pre-historical times for the preparation of different types of artifacts (bags, clothes, beds, shoes, shields, and chairs and have been used as a writing support in manuscript documents form (scrolls and charters) or manuscripts cover bindings as different types of cultural heritage which exist in public and private libraries, archives, and museums¹). Leather had been already in use during the pre-historic period in Egypt². The basic component of these leather artifacts is collagen. Collagen is an organic compound which is composed of carbon, oxygen, hydrogen, nitrogen, and also sulfur, but nitrogen is the most characteristic element. The proteins from chemical composition consist of a large group of complex substances of amino acids. There are three amino acids which are constituted mainly of protein (30% glycine, 10% of proline and 10% hydroxyproline). The triple-helix is the basic unit in which helices are arranged in fibrils at an upper hierarchical level, also fibrils are arranged into the final collagen fibers³.

Leather is animal skin turned by the process of tanning to durable and resistant material against decay which entails chemically altering the composition of the skin. The main aim of tanning process is to stabilize the fiber structure of leather, give leather more resistance to surrounding environmental conditions compared to hide skin, and increase its hydrothermal stability. Leather artifacts are not stable but are in some inappropriate condition of decay under dry or wet conditions⁴. Degradation of leather is caused by a combination of exposure to elevated temperatures, light, humidity, atmospheric pollutants and microorganisms which affect the mechanical, physical and chemical properties of the collagen matrix. According to the inappropriate condition, some aspects of deterioration can be obtained such as brittleness, darkness, being very stiff, undulated, and darkened or relaxed and gelatinized⁵. Studying deterioration mechanisms in leather requires a systematic, multidisciplinary approach that is based on advanced chemical – physical techniques to collect all information from tiny samples⁶. Using analytical techniques has been developed to improve the procedures to authenticate patrimonial objects which are a composite of collagen as well as the

¹LARSEN 2002: 89.

²FORBES 1957: 62; KATHAPALIA 1973: 39; LARSEN 2000: 85- 99; GANITI et AL. 2004 : 349-360; RICHARD 2019: 3.

³BAILEY & PAUL 1998: 104-106; ZVI 2007: 321-327.

⁴GUSTAFSON 1956; STAMBOLOV 1969.

⁵GUSTAVSON 1956; HIGHBERGER 1956: 103-167; MACGREGOR 1980: 142-147.

⁶BADEA et AL. 2008: 17- 27.

methods to study the effects of the environmental factors. It is noticed that the degree of degradation depends on some factors: presence of oxygen, pH, and irradiation wavelength. The methods of analysis used for investigating leather artifacts have been developed during the last decades⁷. So analytical and archeomaterial studies should be performed to the object of the study in order to provide the best documentation procedures, diagnoses deterioration factors, also dating to some extent of the archaeological leather document⁸.

This study aims to provide the best documentation and identification of the main structural aspects of leather by applying different analytical techniques and means of spectroscopic analysis for identifying the components of the archaeological leather document, and to explain its deterioration process. The authors used in the study visual assessment, documentation process by high resolution camera and scanner in multispectral imaging (MSI), and diagnostic examinations using ultra violet fluorescence imaging (UV/ IR). Also isolation and identification of fungi has an important role in the study, investigation of the surface morphology and animal type by using different types of microscopes such as digital light microscope (Dino light), stereo microscope (S.M.) and polarizing microscope (P.M.), identification of pigment binder, explaining amino acids degradation and tanning materials used in leather by Fourier transformation infrared spectrophotometry (FTIR), and identification of inks by X-ray diffraction (XRD), measuring the thickness by micro meter (M.M.). In addition to suggesting a new method for museum displays for the archaeological leather document as the current method is to some extent the reason that caused the damage to the artifact. Therefore, the authors suggest 3D mounting display showcase for the archaeological leather document.

II. MATERIALS AND METHODS

The archaeological leather document (piece of leather) under study measures 32cm X 45cm, was excavated in 1966, and is preserved in the Egyptian Museum storeroom under N°. JE90809 SR 5/13677. It contains some unknown ancient writings which are written in black ink. The methodology of the study depends on identifying the material and characteristics of the leather document using nondestructive investigations. The analytical methods were more effective in explaining and somehow indicate deterioration aspects of the object. The authors selected the techniques used to obtain significant identification and to obtain the optimum amount of information concerning the materials used. The study applied different procedures using MSI, UV, IR, SM, PM FTIR, XRD, MM and isolation and identification of fungi analyses as follows:

⁷ CHAHINE & ROTTIER 1996: 77-79.

⁸ SIONKOWSKA 2004: 117 – 125.

1- Visual assessment, documentation process by high resolution camera, scanner in multispectral imaging (MSI) and multi spectral imaging (VIS-UV-IR)

Multispectral imaging is a set of images acquired through narrow band filters for consecutive wavebands of radiation. Multispectral imaging is the procedure used to observe an object, using selected ranges of wavelengths in the electromagnetic spectrum that include and extend the capabilities of the human eye. Each image shows the intensity of radiation from the scene in the corresponding waveband. Images are acquired at visible wave-lengths (nm 400-700) and may also include regions of the non-visible spectrum: ultraviolet (nm <400) and infrared (nm >700). MSI imaging can be used to guide the selection of areas for point based analytical examination, and they represent a valuable time saving tool that allows for a preliminary assessment⁹. This study will focus on the range of wavelength that can be observed using modified commercially available cameras, which typically employ silicon based sensors sensitive from approximately 350 nm to 1100 nm. The extent to which this radiation will penetrate the object under investigation will be dependent on its wavelength and on the absorbance of the materials which compose the object, with longer wavelengths of radiation generally penetrating further into the piece. The authors used high resolution Nikon Camera for documentation process, HP Deskjet model for scanner in multispectral imaging and the filter used in fluorescence imaging was IR90 filter.

2-Microscopic Examination

In order to exceed the abilities of the naked eye and detect previous restorations carried out on the object, and to understand quality extension the processes of manufacture, the authors used digital light microscope (Dino light) for visual examination. Some of the falling samples were also examined and photographed using the stereoscopic microscope (S.M.) to give a three-dimensional surface image that enables identifying the topography of its surface and its structure and the manifestations of invisible eye damage through its ability to zoom in and connect it to the computer and record the part to be studied. Investigation of the surface morphology and identification of the animal type was done by polarizing microscope (P.M.).

All samples were conditioned under the standard atmospheric conditions for 24 hours at temperature of 25°C and relative humidity 65% and examined by using an Inspect S50 (FEI Image size: 1000 x 1000Mag:128.686327077748xHV:5.0kV. The Zeiss Discovery V20 stereo was used by Axio Cam MRc5 camera and Fujitsu Siemens computer monitor.

⁹ LIANG 2012: 309 – 323.

3. Fourier Transform Infrared Spectroscopy (FTIR)

Monitoring the chemical fingerprint of material is very important when dealing with material science. Identification of ink binder, and collagen degradation and tanning material was done by using Fourier transformation infrared spectrophotometry (FTIR). FTIR spectra of tested binder were recorded on a FTIR spectrophotometer (JASCO-FT/IR-6100 at (research Labs, Projects sector, Ministry of Tourism and Antiquities, Egypt) in the range of 4000–400 cm^{-1} using KBr pellets.

4. Identification of Inks by X-Ray Diffraction (XRD)

The ink sample (some fragments) was analyzed by X-ray diffraction using Compact X-ray Diffractometer System PW 1840 – Analytical Equipment – Philips– Eindhoven – the Netherlands (Cu $K\alpha$ radiation with Ni-filter). The samples were analyzed at Cairo University labs.

5. Measuring the Thickness

According to the unique arrangement of complex natural fibers which give the variations on the types of leather types, leather is considered one of the most versatile materials known. The softness of leather is usually associated to its thickness. The thinner the leather, the softer it will be. Measuring the thickness of the archaeological leather document was done by micro meter. The thickness of each square of the leather piece was measured five times for accuracy in the results.

6. Isolation and Identification of Fungi (Collection of Sample Swabs)

The samples taken for the isolation and identification of fungi were in accordance with 'Abd 'El-Maksoud ¹⁰. Sterile cotton swabs were wiped from different infected parts along the most damaged margins of the verso and recto of the archaeological piece of leather document to obtain samples for fungal culturing and identification. The samples were saved in dry, sterile, polypropylene bags, kept in ice during transportation, then stored in the refrigerator (4°C) till the isolation of microorganisms. Then the process was performed directly in the laboratory.

The fungi were isolated by rubbing the swabs gently on culture medium of potato-dextrose agar (PDA). Inoculated Petri dishes with fungi were incubated at 26 \pm 2°C for 1–2 weeks. Isolated fungi were identified according to Barnett and Hunter, Domsch *et al.*, and Stevens, Raper and Fennell ¹¹.

¹⁰ 'ABD 'EL-MAKSOUDE 2011: 180 - 189.

¹¹ BARNETT & HUNTER 1972: 103-109; DOMSCH *et AL.* 1980: 118-200; STEVENS 1981: 123; RAPER & FENNELL 1995: 65.

III. RESULTS AND DISCUSSION

1- Visual Assessment, Documentation Process by High Resolution Camera, Scanner in Multispectral Imaging (MSI) and Multi Spectral Imaging (VIS-UV-IR)

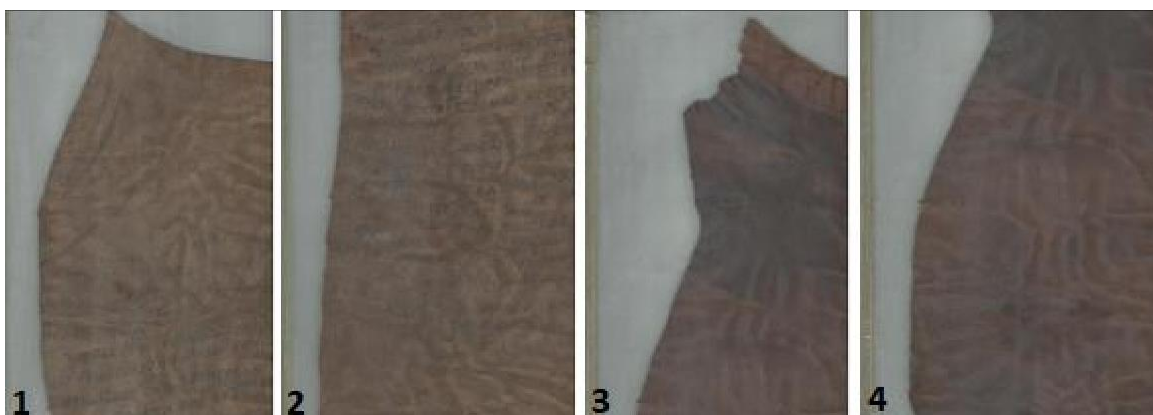
Documentation process (the condition survey) was done by using high resolution camera, scanner in multispectral imaging (MSI) and diagnostic examinations using ultra violet fluorescence imaging (UV) and Infra-Red (IR) as shown in [FIGURES 1-3].

A. Historical Background of the Studied Document

The archaeological leather document which measures 32 cm X 45 cm, had been excavated in 1966, and is currently preserved in the Egyptian Museum in Cairo storeroom under N°. JE90809 SR 5/ 13677. It has some unknown ancient writings which are written in black ink, and the document had not been studied before. The storage of the manuscript was very poor and led to advanced deterioration. The leather document suffered from different aspects of deterioration and dirt spread on the surface.



[FIGURE 1]: Documentation Process; 1- 2: diagnostic examinations by High Resolution Camera of the archaeological leather document (recto layer) beside the blank and color scale; 3: diagnostic examinations by High Resolution Camera of the archaeological leather document (verso layer).



[FIGURE 2]: Documentation Process; 1- 2: diagnostic examinations by Scanner in Multispectral Imaging (MSI) of the archaeological leather document (recto layers); 3- 4: diagnostic examinations by Scanner in Multispectral Imaging (MSI) of the archaeological leather document (verso layers) in different places.

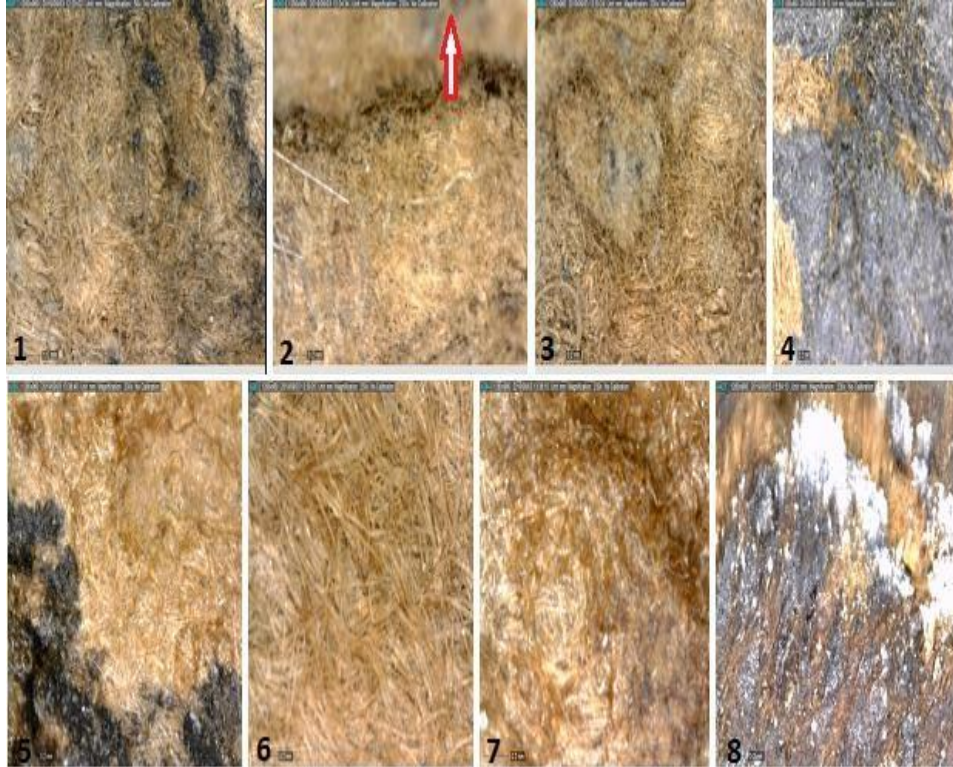


[FIGURE 3]: Documentation Process and diagnostic examinations; 1: using Ultra Violet Fluorescence Imaging (UV) of the archaeological leather document (recto layer); 2: using Ultra Violet Fluorescence Imaging (UV) of the archaeological leather document (verso layer).

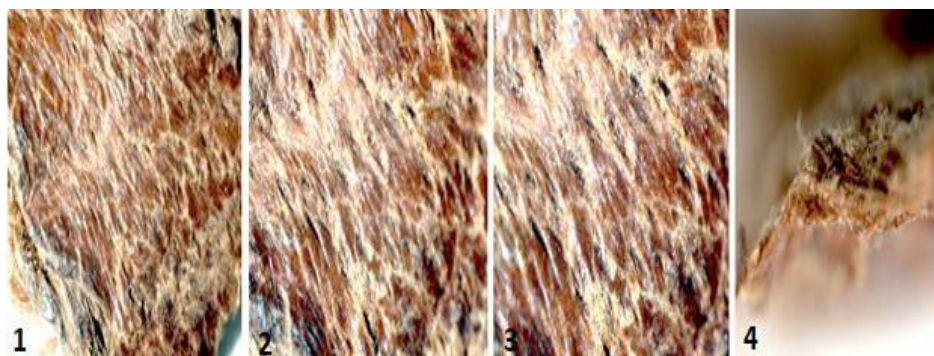
B. Microscopic Examination

Investigation of the surface morphology and animal type was done by using different types of microscopes; digital light microscope (Dino light), stereo microscope (S.M.) and polarizing microscope (P.M.). The leather surface was so deteriorated that one could hardly observe the hair holes' arrangement. By close examination the deformation of the surface morphology was clear [FIGURES 4- 7]. The microscopic examination of samples of the archaeological leather document indicated that the type of skin used was sheep in comparison with the standard samples. The coarse follicles were found in the form of bundles. There was a wide and smooth surface between these groups. Also the leather document was manufactured using a long, strong and flexible leather piece which was used as written manuscript.

The leather surface was smoothed and glazed. In addition, from the microscopic examination it was clear that there was deformation of the appearance, contaminations from stains and dust, random distribution of the fiber structures, damage caused by physical factors appeared in the erosion of the fibers and many bores.



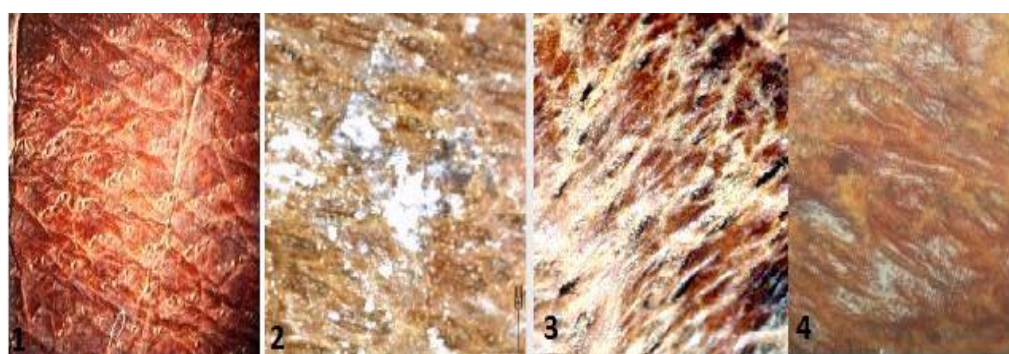
[FIGURE 4]: Examination of the archaeological leather document sample with magnification 230x, 1280x960 no calibration as the arrow indicates the image; 1-8: using digital light microscope (Dino light) for examination which explain deformation of the surface morphology in different places.



[FIGURE 5]: Examination of the archaeological leather document sample, 1-4: using stereo microscope (S.M.) for examining the coarse follicles in different places of the samples arranged with magnification 1-50x; 2, 3-35x; and 4-94x.



[FIGURE 6]: Examination of the archaeological leather document sample; 1-3: using polarizing microscope (P.M.) for examining the surface morphology with magnification 1-50x; 2-100x; 3-25x.



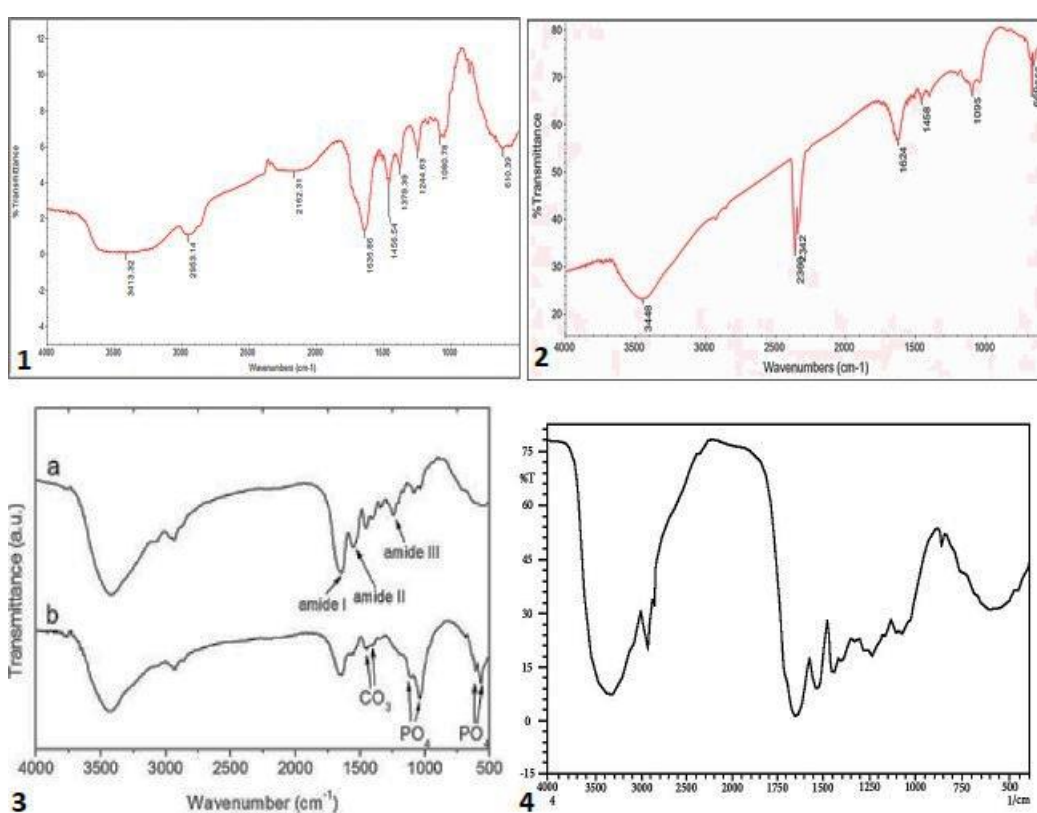
[FIGURE 7]: Identification of the animal type by comparison with the standard sample of sheep leather: 1- the standard sample of sheep leather examining by Digital light microscope showed coarse follicles were found in the form of bundles, 2-examination of the archaeological leather document sample by digital light microscope (Dino light), 3- examination of the archaeological leather document sample by stereo microscope (S.M.), 4- examination of the archaeological leather document sample by polarizing microscope (P.M.).

C. Fourier Transform Infrared Spectroscopy (FTIR)

The binder used with the black ink was identified as gum Arabic. After comparison with the blank sample of pure gum Arabic (which is a natural polysaccharide) the O-H bending band at 1650 cm^{-1} which indicates the characteristics of polysaccharides appeared [FIGURE 8].

In comparison with the control sample the analysis proved that the archaeological leather document was tanned with vegetable tanning as the 3414 cm^{-1} for the oak tannin extract was found in the sample [FIGURE 8]. Also, this explained the degradation in the archaeological sample that had occurred in the collagen. It is clear that the band at 3429.78 cm^{-1} assigned to a broad band represents (OH) hydroxyl stretching due to intermolecular hydrogen bonding of the hydroxyl group. This band includes multiple bands made up of multiple N-H groups, both in the solid state and in the presence of hydrogen bonding. The C-H stretching vibrations occur in the region $2924.52\text{-}2926.45$

cm⁻¹ stretching of aliphatic groups. The bands between 3422.06 cm⁻¹ and 2924.52 cm⁻¹ are protein characteristics, and the increase or decrease of these bands may give an indication of the expansion or contraction of the protein areas. Collagen exhibits a series of absorption bands from 1656.55 cm⁻¹ to 1241.93 cm⁻¹. The band at 1641.13 cm⁻¹ (C=O stretching) is assigned to amide I. In the solid state, the frequency of the vibration slightly decreased. The presence of hydrogen bonding is an important contributing factor to this decrease in frequency¹². The bands at 1562.06 cm⁻¹ (NH bending, CN stretching) are assigned to amide II. The band at 1243.86 cm⁻¹ is assigned to amide III which involves C-N stretching and N-H bending. The wavenumber of these peaks depends on the secondary structure of the protein.



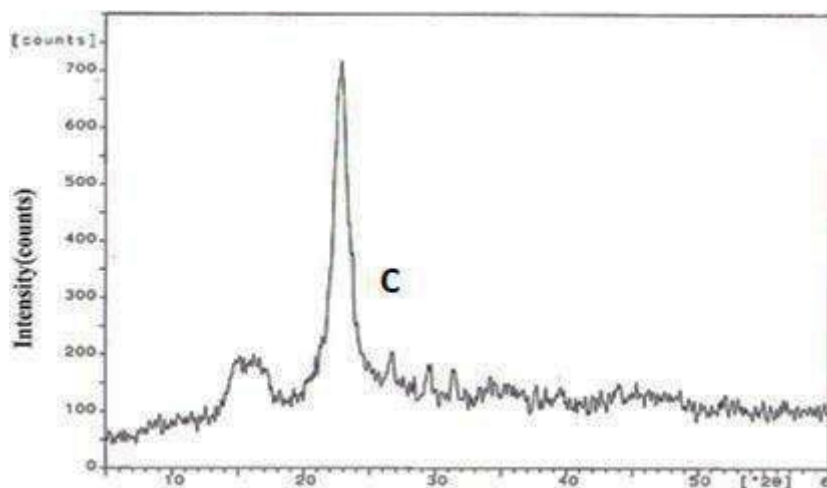
[FIGURE 8]: Fourier Transform Infrared Spectroscopy (FTIR) of the archaeological leather document; 1- standard FTIR of the gum Arabic; 2- standard FTIR of vegetable tanning; 3- standard FTIR of amino acids (Michele, *et Al.*, 1999; Nicoletam *et Al.*, 2006); 4- FTIR of the archaeological leather document.

D. Identification of Inks by X-Ray Diffraction (XRD)

The results showed that the black ink was made of carbon ink which was commonly made from lampblack or soot and a binding agent such as gum Arabic. The binding agent keeps the carbon particles in suspension and adheres to the document.

¹² MICHELE *et AL.* 1999: 108- 128; ANDREAS 2007: 1073–1101; AMERTANINGTYAS *et AL.* 2012: 939 - 942.

Carbon ink was the first writing ink in history that ancient Egyptians used to write. The ink was formed in the process of burning organic materials (oil, or wood). The ink material is formed by mixing pure carbon with adhesive, which is often gum Arabic. Carbon ink is characterized by extreme stability, and this stability is due to the fact that carbon is chemically inert under normal conditions. Among its disadvantages is the possibility of its separation in the form of scales or flaking off from the document and is affected by humidity which occurred in the archaeological leather document.

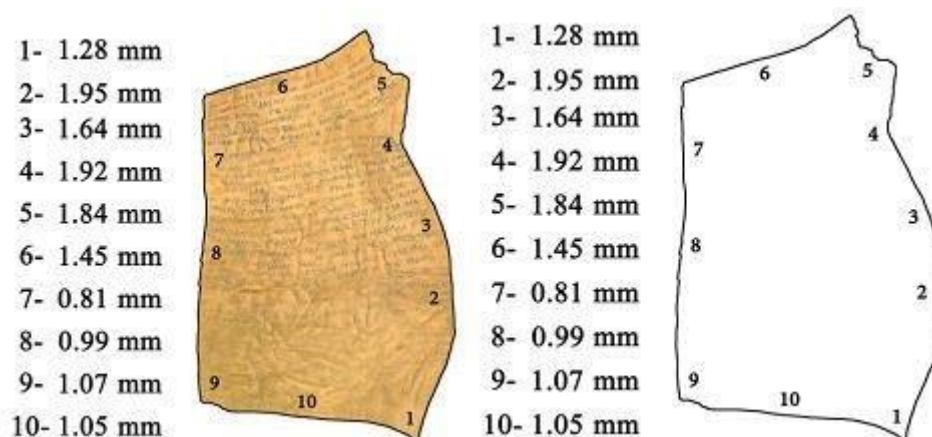


[FIGURE 9]: Identification of carbon ink by X-ray diffraction (XRD) of the archaeological leather document.

E. Measuring the Thickness

One of the most important characteristics during exploitation of leather documents is leather softness. One of the best ways to evaluate this parameter is the measurements performed of the thickness and softness to give indications of the manufacturing process of leather. The evaluation was processed by using the micro meter. Unfortunately, the authors found that the leather document suffered from wrinkles, creases. So, different points were chosen for measuring as shown in [FIGURE 9].

The results showed that the skin thickness measurement displayed a high number in some areas and low numbers in other areas which indicates that the manufacturing process was not so perfect. The skin was thicker always near the areas of the tail along the back of the animal, used though the manufacture process, in the oldest animal, also towards the neck. But the area of uniform skin thickness was in the middle of the back, on either side of or parallel to the vertebral column. It was clear that the thickness of leather is too high. It was normal of written leather in the nineteenth century to be thick.



[FIGURE 10]: Topographic sections of archaeological leather document and points of thickness measurements.

F. Fungi Identification of Archaeological Leather Piece

The results of this study revealed that the most dominant fungi on the leather document are the fungal species which were identified and characterized based on their morphological characters and microscopic analysis by using taxonomic guides¹³. The most dominant fungi isolated from the historical leather document of the study were identified: *Aspergillus niger*, *Aspergillus sulphureus*, *Aspergillus versicolor*, *Aspergillus sydowii*, *Penicillium chrysogenum*, *Penicillium islandicum*, *Alternaria alternata*, *Aspergillus flavus*, *Aspergillus terreus*. Leather artifacts are organic materials that are susceptible to numerous microbial deterioration processes, especially fungi. Fungi that attack tanned leather often belong to lipolytic species and utilize the fats present in leather as a source of carbon. Effects of microbial deterioration on protein materials are due to the presence of different stained spots, the loss in tensile strength and, the hydrolysis of leather¹⁴.

Isolation and identification of micro-organisms are very important for the restoration and conservation treatments of the archaeological manuscripts; they give an idea of the microbiological deterioration which helps to determine the most appropriate methods for prevention, inhibition and removal of these micro-organisms¹⁵. Valentin¹⁶ stated that among the types of fungi found in museums, archives and libraries are *Aspergillus niger*, *Aspergillus flavus*, *Aspergillus fumigates*, *Penicillium chrysogenum*, *Rhizopus nigricans*. David¹⁷ mentioned that fungi of various types are often seen in ancient leather artifacts as a result of poor storage.


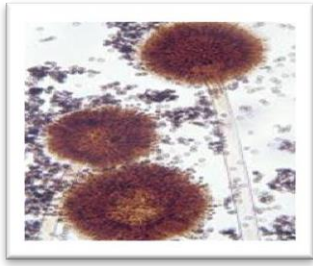
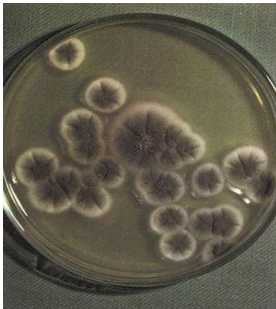
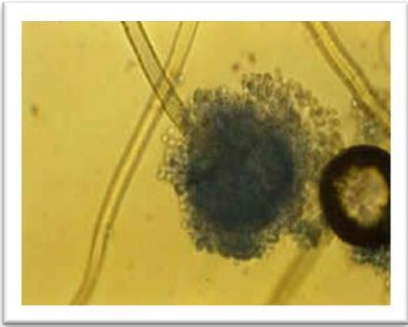



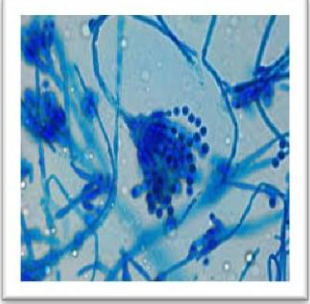
¹³ APINIS 1963: 57- 78; ROHILLA & SALAR 2012: 297- 303.

¹⁴ RABEE 2015: 369- 382.



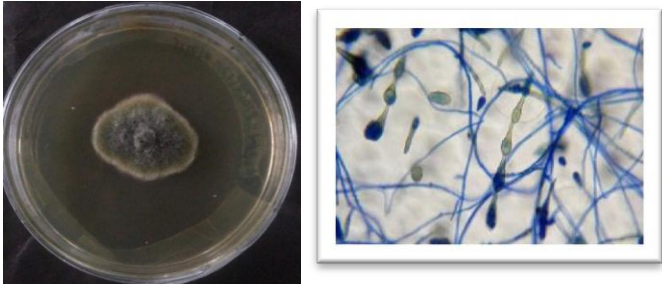
¹⁵ Abd EL-MAKSOUUD 2011: 180- 189.

¹⁶ VALENTIN 2001: 5- 7.

¹⁷ DAVID 2008: 77- 79.

Fungi Identification	
<i>Aspergillus niger</i>	  <p style="text-align: center;"><i>Aspergillus niger</i>; Colonial characters on PDA medium and Morphological characters (X-400).</p>
<i>Aspergillus sulphureus</i>	  <p style="text-align: center;"><i>Aspergillus sulphureus</i>; Morphological characters (X-400) and Colonial characters on PDA medium.</p>
<i>Aspergillus versicolor</i>	  <p style="text-align: center;"><i>Aspergillus versicolor</i>; Colonial characters on PDA medium and Morphological characters (X-400).</p>
<i>Aspergillus sydowii</i>	  <p style="text-align: center;"><i>Aspergillus sydowii</i>; Colonial characters on PDA medium and Morphological characters (X-400).</p>

ANALYTICAL STUDY OF THE ARCHAEOLOGICAL LEATHER DOCUMENT PRESERVED IN EGYPTIAN MUSEUM AND NEW PROPOSAL FOR MUSEUM EXHIBITION

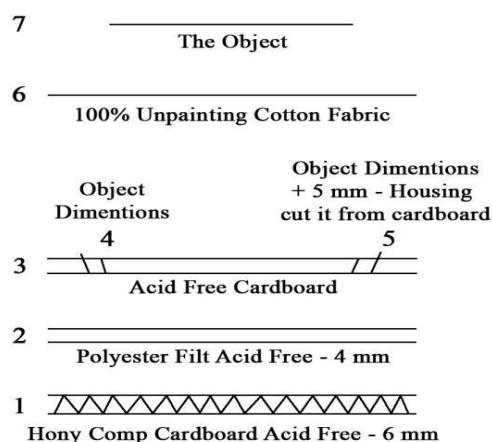
<p><i>Penicillium chrysogenum</i></p>	 <p><i>Penicillium chrysogenum</i>; Colonial characters on PDA medium and Morphological characters (X-400).</p>
<p><i>Penicillium islandicum</i></p>	 <p><i>Penicillium islandicum</i>; Colonial characters on PDA medium and Morphological characters (X-400).</p>
<p><i>Alternaria alternata</i></p>	 <p><i>Alternaria alternata</i>; Colonial characters on PDA medium and Morphological characters (X-400).</p>

[TABLE 1]: The results of this study revealed the most dominant fungi isolated from the leather document and their identification.

G. New Proposal for Museum Exhibition

Old preservation method and the current method of exhibition may lead to chemical, physical and biological deterioration. The state of conservation must be especially considered with deteriorated leather; in such cases the authors suggested a new method for preservation and displaying to stabilize the archaeological leather document condition. The authors used a method that has been developed at the GEM for such treatments called 3D mounting. This procedure offered two advantages: first it could be established whether there was text or the remains of text on the verso under the backing document, and second it enabled the leather document fibers to be examined and

preserved or displayed safely. It should be noticed that the leather document must be displayed in 45° degree in the new 3D mounting showcase. The details are explained in the following illustration [FIGURE 11].



[FIGURE 11]: New 3D mounting showcase for the leather document

IV. CONCLUSION

Archaeological leather document preserved at the Egyptian museum showed different aspects of deterioration. The authors applied different analytical methods. Visual assessment and documentation process had been done. The results revealed that the microscopic examinations of samples clarify the type of skin. X-ray diffraction results showed also that the ink used was made of carbon black ink. FTIR proved the degradation of the collagen in the archaeological leather document, the binding agent was Gum Arabic and the leather was tanned with vegetable tanning. In addition, the results showed that thickness measurement numbers were different which indicates that the manufacturing process was not so perfect. Isolation and identification of micro-organisms clarified that the most dominant fungi isolated from the historical leather document were: *Aspergillus niger*, *Aspergillus sulphureus*, *Aspergillus versicolor*, *Aspergillus sydowii*, *Penicillium chrysogenum*, *Penicillium islandicum*, *Alternaria alternata*, *Aspergillus flavus*, *Aspergillus terreus*. Finally, the authors suggested a new method for exhibition of the archaeological leather document which is explained in details in diagram.

V. ACKNOWLEDGEMENT

We have to express our appreciation to Ahmed Tarek for sharing his pearls of wisdom that provided expertise that greatly assisted the research and all the team work at the Egyptian Museum in Cairo.

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BIBLIOGRAPHY

- ABD 'EL-MAKSOU, G., ABD 'EL-HADY, M. » Effect of Burial Environment on Crocodile Bones from Hawara Excavation» Fayoum, *Journal of Cultural Heritage* 12/ 2, 2011, 180-189.
- AMERTANINGTYAS, D, ERWANTO, Y, BACHRUDDIN, Z.& JAMHAR » Fourier Transform Infrared (FTIR) Spectra, Amino Acid Profile and Microstructure of Gelatin from Madura and Crossbred Ongole Cattle Hides», *the 7th international seminar on tropical animal production, Yogyakarta*, 2012, 939-942.
- ANDREAS BARTH.: *Infrared Spectroscopy of Proteins, Biochimica et Biophysica Acta*, 1767, 2007, 1073–1101
- APINIS A.E.: *Occurrence of Thermophilous Micro Fungi in Certain Alluvial Soils near Nottingham*, Nova Hedwigia, Zeitschr & Kryptogamenk 5, 1963, 57-78.
- BADEA, E.; MIU, L; BUDRUGEAC, P.; GIURGINCA, M.; Mai, A. , BADEA, N. & DELLA GATTA, G. «Study of Deterioration of Historical Parchments by Various Thermal Analysis Techniques Complemented by SEM, FTIR, UV–Vis–NIR and Unilateral NMR Investigations» *Journal of Thermal Analysis and Calorimetry* 9, 2008, 17–27.
- BAILEY A. J. & PAUL R. G.: «Collagen. A Not So Simple Protein», *J. Soc. Leath. Technol. Chem.* 82, 1998, 104-106.
- BARNETT, H.L & HUNTER, B.B.: *Illustrated Genera of Imperfecti Fungi*, 3rd ed., Minnesota: (Burgess Publishing Co., Minneapolis) 1972, 103-109.
- CHAHINE C, Rottier C.: *European e Environmental, Leather Project*, Research Report, Copenhagen, 1996.
- DAVID, AR.: *Egyptian Mummies and Modern Science* London (Cambridge University Press), 2008.
- DOMSCH, K.H., GAMS, W. & ANDERSON, T.H.: *Compendium of Soil Fungi*, London (1 & 2 Academic Press) 1980.
- FORBES RJ.: *Leather in Antiquity: Studies in Ancient Technology*, vol. 5. Leiden (E.J. Brill), 1957, 62.
- GANITI, V. PAVLIDOU, E. F. ZORBA, K.M. PARASKEVOPOULOS, D& BIKIARIS.: «A Post-Byzantine Icon of St. Nicholas Painted on a Leather Support. Microanalysis and Characterisation of Technique» *Journal of Cultural Heritage* 5, 2004, 349-360.
- GUSTAFSON, K. H.: *The Chemistry of Tanning Processes*, New York (Academic Press) 1956.
- GUSTAVSON K. H.: *The Chemistry and Reactivity of Collagen*, New York (Academic Press) 1956.
- HIGHBERGER J. H.: *The Chemical Structure and Macromolecular Organization of the Skin proteins*, in: *The Chemistry and Technology of Leather*. F. O'FLAHERTY, W.T. RODDY & R. M. LOLLAR (eds.) vol. 1, New York: (Reinhold publishing corporation) 1956, 103-167.
- KATHAPALIA.: *Conservation and Restoration of Archive Materials*, Paris (UNESCO), 1973.
- LARSEN R. «Experiments and Observations in the Study of Environmental Impact on Historical Vegetable Tanned Leathers», *Journal of Thermochimica Acta* 365/1-2, 2000, 85- 99.
- LARSEN R.: *Microanalysis of Parchment, IDAP, The IDAP project*, London (Archetype Publications), 2002.

- LARSEN, R.: Improved Damage Assessment of Parchment, IDAP: micro and non-destructive Analysis and Diagnosis for Proper Storage and Treatment, 1998.
- LIANG, H. «Advances in Multispectral and Hyperspectral Imaging for Archaeology and Art Conservation» *Appl. Phys. A* 106, 2012, 309– 323, Doi: <http://dx.doi.org/10.1007/s00339-011-6689-1>
- MacGregor E.A.& C.T. GREENWOOD.: *Polymers in Nature*, Chichester (John Wiley & Sons) 1980.
- MARINA B., MICHELA M., GIOVANNA P., ARMIDA S.& MARIA T. TANASI. «Inside the Parchment», 9th International Conference on NDT of Art, Jerusalem, 25-30 May 2008, 1-10.
- MICHELE R., DERRICK, DUSAN STULIK, JAMES M.& LANDRY.: *Infrared Spectroscopy in Conservation Science*, Los Angeles (the Getty conservation institute), 1999, 108-128.
- NICOLETA MELNICIUC PUICĂ, AUREL PUI, & MARGARETA FLORESCU. «Ftir Spectroscopy for the Analysis of Vegetable Tanned Ancient Leather» *European Journal of Science and Theology*, 2/4, 2006.
- RABEE, R.A.:« A 'Tafsir Al Khazen' Manuscript (17th century AD). Technical Study», *International Journal of Conservation Science* 6/3, 2015, 369-382.
- RAPER, K.B. & FENNELL, D.L.: *The Genus Aspergillus*, Baltinore (Williams & Wilkins), 1995, 65.
- RICHARD O., ORUKO, JOHN O. ODIYO & JOSHUA N. EDOKPAYI. «The Role of Leather Microbes in Human Health», chap. 2, Researcher Gate, Doi: 10.5772/intechopen. 81125, <https://www.researchgate.net/publication/331634411>) 2019, 3.
- ROHILLA S.K., & SALAR R.K. «Isolation and Characterization of Various Fungal Strains from Agricultural Soil Contaminated with Pesticides», *Research Journal of Recent Sciences* 1, 2012, 297-303.
- SIONKOWSKA A, SKOPINSKA J, WISNIEWSKI M.: *Polym Degrad Stab*, 83, 2004, 117–125
- STADTMAN E. R. & R. L. Levine.: *Free Radical-Mediated Oxidation of Free Amino Acids and Amino Acid Residues in Proteins, Amino Acids* 25, 2003, 207–218.
- STAMBOLOV, T. « Manufacture, Deterioration and Preservation of Leather» *A Literature Survey, ICOM Plenary Meeting, Central Research Laboratory for Objects of Art and Science*, Amsterdam, 1969.
- STEVENS, R.B.: *Mycology guide book committee*, Seattle (Mycology Society of American University of Washington Press) 1981, 123.
- VALENTIN, N.: «Microbial Contamination and Insect Infestation in Spanish Museums, Archives and Libraries», *Coalition* 3, 2001, 5-7.
- ZVI GOFFER.: *Archaeological Chemistry*, 2nd Ed., New York (A JOHN WILEY & SONS, INC., PUBLICATION) 2007.

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دراسة تحليلية لقطعة جلد أثرية محفوظة بالمتحف المصري ومقترح جديد للعرض المتحفي

السيدة نفيسة الشامى ومؤمن عثمان

مدرس فى كلية الآثار والإرشاد السياحى / جامعة مصر للعلوم والتكنولوجيا
رئيس قطاع المتاحف بوزارة السياحة والآثار بمصر .

الملخص

قطعة من الجلد الأثرى محفوظة فى مخزن المتحف المصرى برقم JE90809 / ١٣٦٧٧/٥، تم اكتشافها عام ١٩٦٦، وتعانى الوثيقة الجلدية مظاهر التلف المختلفة. تركز هذه الدراسة على استخدام التقنيات التحليلية الحديثة لتحديد مكونات المخطوطة لشرح عمليات التلف. استخدمت فى الدراسة التقييم البصرى، وعملية التوثيق بواسطة كاميرا عالية الدقة والماسح الضوئى فى التصوير متعدد الأطياف (MSI) والفحوص التشخيصية باستخدام التصوير متعدد الأطياف (VIS-UV-IR)، وعزل وتحديد الفطريات، والتحقق فى الشكل السطحي ونوع الحيوان باستخدام أنواع مختلفة من المجاهر: المجهر الضوئى الرقعى، المجهر الاستريو (SM)، المجهر الاستقطابى (PM) ايضا تم تحديد نوع الحبر، ومواد الدباغة بواسطة التحليل الطيفى بالأشعة تحت الحمراء (FTIR)، وتم تحديد نوع الحبر بواسطة حيود الأشعة السينية (XRD)، وتم قياس السمك للقطعة. بالإضافة إلى اقتراح طريقة جديدة للعرض المتحفي للوثيقة حيث أن طريقة العرض الحالية هى إلى حد ما السبب الذى تسبب فى تلف القطعة.

نتائج حيود الأشعة وقد أوضحت نتائج الفحوصات للعينات أن نوع الجلد المستخدم هو الأغنام مقارنة بالعينات القياسية. كما أظهرت السينية أن الحبر الأسود المستخدم هو الحبر الكربونى. بالإضافة إلى ذلك، أظهرت النتائج اختلافاً فى أرقام نتائج قياس السمك للقطعة مما يدل بطريقة أو بأخرى على أن عملية التصنيع لم تكن مثالية. كما أثبتت نتائج FTIR تلف وتدهور الكولاجين فى الوثيقة الجلدية، وكان الوسيط الصمغ العربى والجلد المدبوغ تم دباغته بالتانين (الدباغة النباتية). أوضح عزل الكائنات الحية الدقيقة أن الفطريات المعزولة من هي: *Aspergillus niger* و *Aspergillus sulphureus* و *Aspergillus versicolor* و *Aspergillus sydowii* و *Penicillium chrysogenum* و *Penicillium islandicum* و *Alternaria Alternus* و *Aspergillgillus flavus*. وأخيراً كان تخزين المخطوطة رديئاً للغاية مما أدى إلى جوانب مختلفة من التدهور. ودفع ذلك المؤلفين إلى اقتراح طريقة جديدة للعرض المتحفي للوثيقة الجلدية الأثرية.

الكلمات الدالة: كائنات حية دقيقة، تلف، احبار، دباغة، فطريات، عرض متحفي.

2021

MICROSTRUCTURE AND DAMAGE ASSESSMENT OF SOME PTOLEMAIC POTTERY OBJECTS AT TELL ABU YASIN IN SHARKIA, EGYPT: CASE STUDY

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MICROSTRUCTURE AND DAMAGE ASSESSMENT OF SOME PTOLEMAIC POTTERY OBJECTS AT TELL ABU YASIN IN SHARKIA, EGYPT: CASE STUDY

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ABSTRACT

Tell Abu Yasin is one of the most important sites in Sharkia governorate and dates back to Ptolemaic age. Many tests and analyses were performed to diagnose damage manifestations of some pottery pieces. The research has proven that the clay used in that pottery is Nile Clay, while tempers are sand, grog, and limestone powder. The used shaping technology was potter wheel, surface treatment is slip layer, and the burning atmosphere inside the kiln was reduced for the first pot and oxidized to the second and third piece. Pottery objects suffer from physiochemical damage by soil sediments, in addition to phenomenon of fracture, scaling, cracking, weakness, fragility, and crystallization of chlorides, sulfates, carbonates and phosphate salts as a result of burial in saline clay soil. The research recommends that restoration; treatment and maintenance of these pottery pieces should be on the basis of examination results, analyses and damage assessment that have been proven by the researcher.

KEYWORDS: Pottery, clay, additives, slip layer, firing atmosphere, damage.

I. INTRODUCTION

Tell Abu Yasin area is located in Sharkia Governorate, it is located 4 km southeast of Abu Kabir and 40 km northeast of Zagazig city. It dates back to the Ptolemaic period, where excavations were carried out by the Supreme Council of Antiquities mission revealing many different shapes and colors of pottery pieces, as well as many different kilns, stoves and a cemetery including some granite sarcophagi¹. Tell Abu Yasin is located within the district of Horbait, and was known by *ti-rimo*. Its name is derived from the ancient Egyptian name «*Hur Bit* »and *Farpithios* in the Greek era². Its current location is the village of Horbit in Sharkia, Egypt³.

Pottery is one of the most important types of artifacts for the regional chronology and distribution of cultures, in addition to demonstrating relationships between settlement sites due to difference and diversity of manufacturing techniques, tools, shapes and decoration patterns⁴. Microstructure and tempers play a role in identifying technology of manufacture and classification of pottery, in which there has been clear progress in the field of examinations and analyses in recent times⁵.

The methods of examination and analysis in the field of study of archaeological materials have differed and varied according to their different objectives⁶ such as micro-morphology, mineral composition, structure behavior and thermal characteristics⁷. Microscopic examination of pottery provides information on micro composition and morphology of archaeological samples⁸, while petrographic structure study plays an important role in identifying mineral components, microstructure, shape and size of grains, their relationship with each other and their distribution in the pottery specimen⁹. Examination and analysis give a clear map of the nature of damage whether it is workmanship defects or soil decay¹⁰. Pottery pieces suffer from damage due to manufacturing defects such as fine cracks, black core and staining phenomenon as a result of burning process¹¹. Many pottery relics such as terracotta have many damage aspects due to manufacture processes. Burning failure leads to rapid surface deterioration for terracotta, and high firing temperatures create glass matrix that may damage pottery products¹².

Pottery pieces buried in the soil suffer from physiochemical damage that deforms the surface and mineral composition. Damage speed and its rate depend on type of burial

¹ NOUREDDINE 2018: 360.

² cABD 'EL -HAMID 2007: 668- 677.

³ KAMEL 1981: 161.

⁴ TURKTEKI 2020: 59.

⁵ HOGG & AL. 1999: 42.

⁶ cABDEMMONIEM et AL. 2020: 7-17.

⁷ BIRDI 2003: 1.

⁸ MABROUK 2020: 165.

⁹ BOUKHENOUF 2020: 51.

¹⁰ 'EL-GHAREB 2001 :150- 155 .

¹¹ MIRTI 1998: 45.

¹² ASHURST 1989: 72-73.

environment, whether it is dry or wet burial environment¹³. Pottery pieces suffer from staining phenomenon because of burning or iron deposits in soil of archaeological site. This staining phenomenon increases in porous pottery¹⁴. Pottery often suffers from phenomenon of fracture due to soil mechanical damage¹⁵, this phenomenon increases in marine burial environments due to intense water currents¹⁶. Among the most important damage aspects of pottery buried in the soil is crystallization of salts¹⁷, cracking and fracture¹⁸.

The resulting damage is physiochemical deterioration; and fragmentation may occur within a few minutes during excavations¹⁹. This type of pottery needs restoration, treatment and maintenance process to remove soil sediments, as well as strengthening process that consolidates and links the granules and improves physical and mechanical properties especially using novel nano materials for consolidation ²⁰.

Therefore, this study aims to determine microstructure, mineral composition and damage assessment of archaeological pottery at Tell Abu Yasin in Sharkia for its treatment and maintenance based on proven results by the researcher.

II. STUDY MATERIALS AND METHODS

1. Study Materials

Four samples were selected; namely three samples of pottery pieces extracted from Tell Abu Yasin in Sharkia (case study), and one soil sample from the archaeological site, all of which were used in examination and analysis conducted for this study.

2. Study Methods

A. Visual Examination

Visual examination method is the first stage of examination process where some lenses and stereomicroscopes with different magnification are used in visual assessment process of pottery samples²¹.

B. Petrographic Examination

Polarizing microscope is one of the important methods used in studying petrographic structure²², mineral changes, function use, tempers, grains size, mineral composition, surface treatment, in addition to glass phases²³. Thin section was prepared for examination using Nikon Eclipse polarizing microscope. This examination was performed at the Geological Survey in Cairo.

¹³ FLORIAN 2000:1.

¹⁴ HODGE 1986: 147.

¹⁵ PRICE 1984: 4.

¹⁶ HAMITON 1998: 17; PEARSON 2000: 98.

¹⁷ SMITH 1999: 163.

¹⁸ CRONYN 1996: 29.

¹⁹ PLENDERLEITH 1971: 125.

²⁰ CİNTEZA ,2012: 28.

²¹ 'EL-GHAREB 2017: 76- 77.

²² STOLTMAN 2001: 297- 326.

²³ RIEDERER 2004: 143- 158.

C. Scanning Electron Microscopy with EDX Unit

It is one of the important technologies in the field of examination and analysis of pottery. Scanning electron microscope equipped with EDX unit describes morphology of pottery surface, size of grains, distribution of particles, texture, surface treatment and damage forms such as gaps, cracks, crystallization of salts, peeling and mineral composition of archaeological pottery²⁴. The device used is model Quanta FEG250 SEM unit. This examination was performed by scanning electron microscope unit at the National Research Center in Cairo.

D. XRD analysis

It gives information about the nature of pottery manufacture technology especially firing process, mineral changes which were caused during manufacture or burial in the soil²⁵. The device used is XRD device model Philips Analytical X-Ray; and this analysis was conducted at XRD unit at Center of Microanalysis at Ain Shams University.

E. Thermal Analysis

Thermal Differential Analysis «DTA» was used to determine firing temperature of pottery due to mineral changes that occurred during firing of pottery²⁶. Two pottery samples were analyzed by thermal analysis device Perkin Elmer STA 6000, the temperature program ranged from room temperature to 1500°C, measurement range: ± 0.2 to ± 1000 μV , heating speed: 0 to +50°C/min, temperature, and mineral changes were recorded on the chart. This thermal analysis was performed at the Faculty of Science, Cairo University.

3. Results

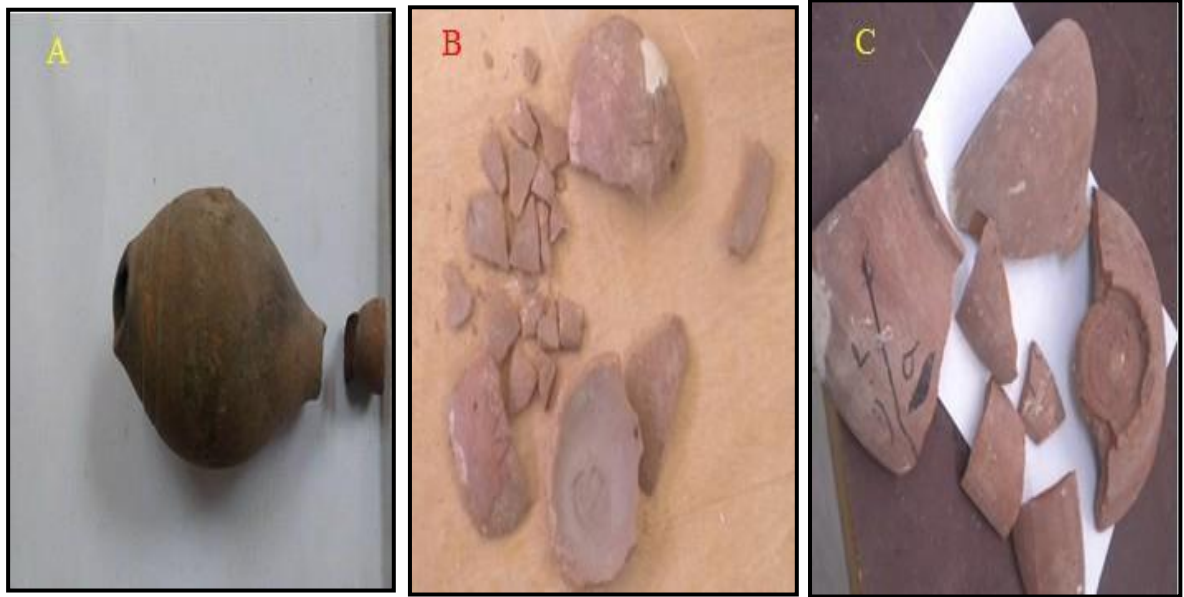
A. Visual Examination

Visual examination proved that the pottery pots in Tell Abu Yasin in Sharkia suffered from high percentage of clay soil sediments, crystallization of salts, various stains, missing parts, black core, peeling and separation of slip layer. It also proved that forming method was potter wheel method for the first and third piece, as well as coiling shaping method for the second piece as in [FIGURE 1].

²⁴ MORO et AL 2020: 223-232.

²⁵ CLIMENT et AL 2018: 240.

²⁶ BAYAZIT et AL 2014: 14769- 14779.

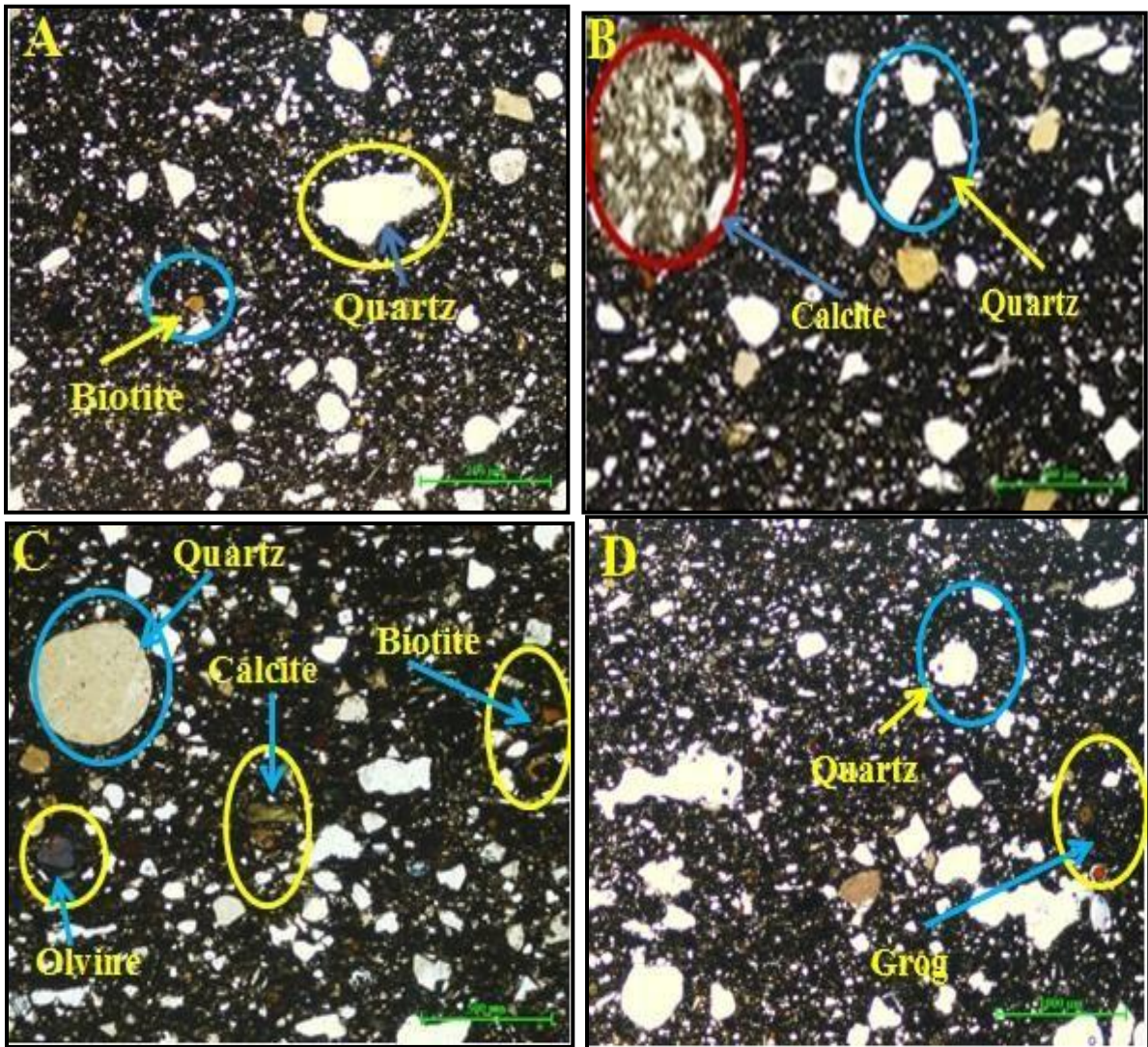


[FIGURE 1]: Pottery pieces at Tell Abu Yasin in Sharkia. A: pot B: plate C: bowl

B. Examination by polarizing microscope

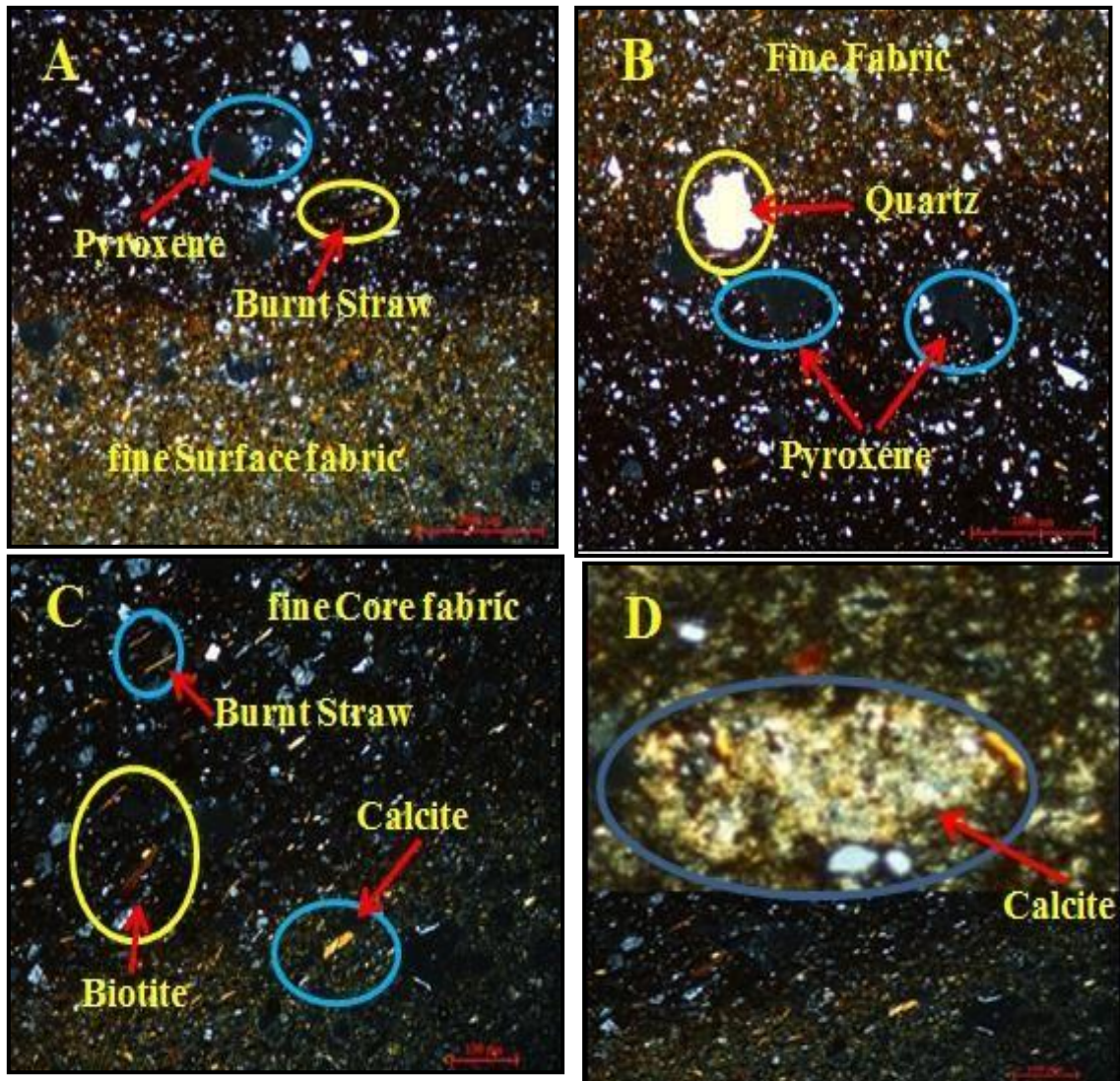
Pottery samples were examined by polarized microscope as in [FIGURE 2], where surface examination with polarized light showed presence of quartz grains, most of which are fine grains, as well as some coarse quartz grains, some grains are semi-circular, others are sharp angular and contain biotite as shown in [FIGURE 2/A]. Another part of the same sample was also examined showed the presence of quartz grains from fine grains to coarse grains, as well as limestone powder, biotite and rutile as in [FIGURE 2/B]. The examination of core showed presence of quartz grains, as well as limestone powder, biotite and rutile as in [FIGURE 2/C]. An examination of another part of core illustrated presence of quartz grains from fine grains to coarse grains, as well as grog, biotite and rutile as in [FIGURE 2/D].

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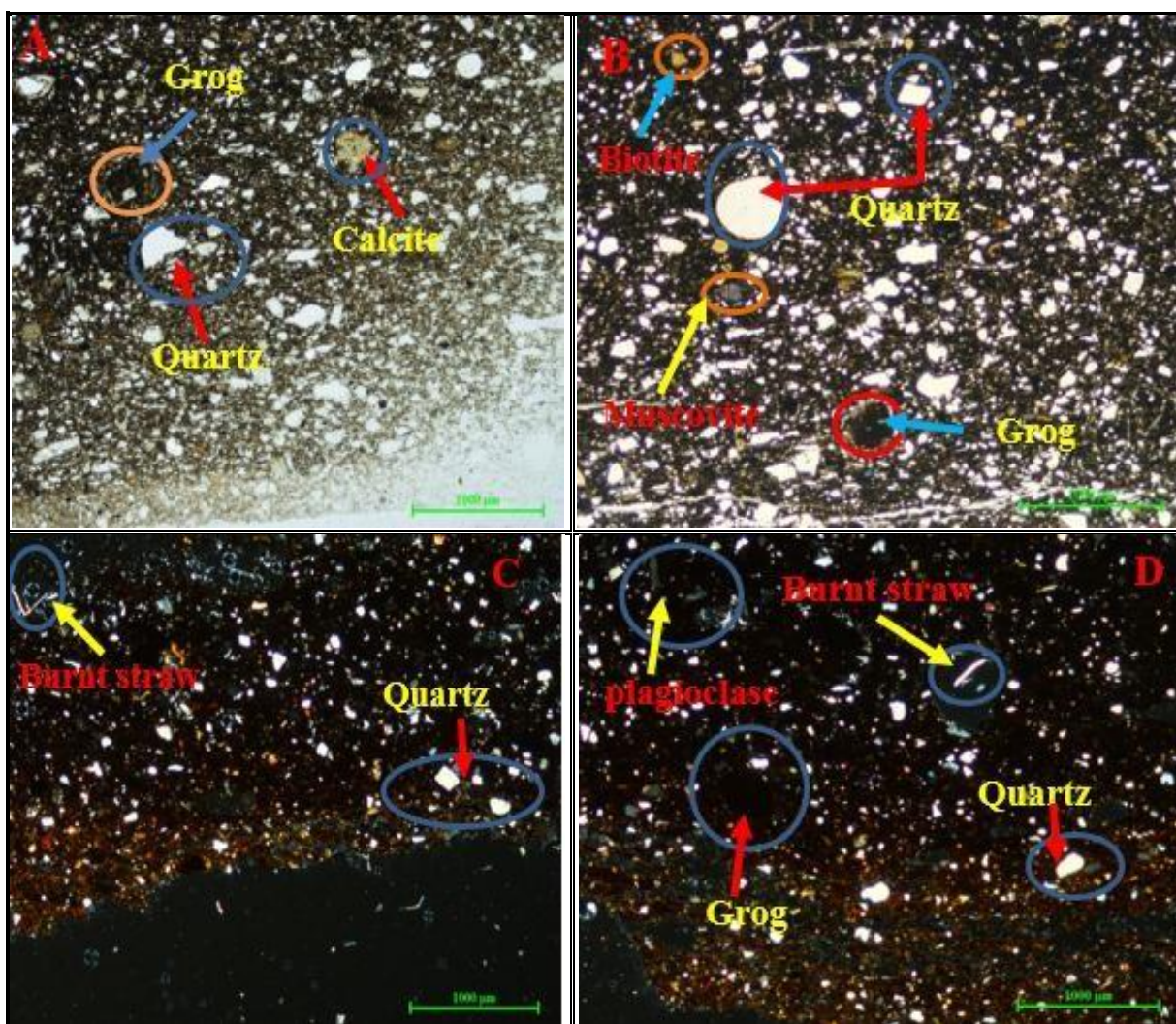
[FIGURE 2]: Petrographic examination of the first sample A: quartz, biotite, rutile. B: quartz, biotite, limestone powder. C: quartz, biotite, calcite & olivine

[FIGURE 3]: The second pottery sample showed presence of a delicate texture of quartz granules, in addition to remnants of calcite, pyroxene, burnt straw and rutile as in [FIGURE 3/A]. Examination of another part of the same sample showed presence of fine quartz granules, as well as calcite, biotite, plagioclase, and rutile as in (FIGURE 3/B). The examination of core illustrated presence of fine quartz grains, some quartz grains as one of the additives materials found accidentally, as well as calcite, biotite, rutile and burnt straw as in [FIGURE 3C]. The examination «another part of core» also showed presence of fine quartz, calcite, biotite, rutile as in [FIGURE 3/D].



[FIGURE 3]: Petrographic examination of the second pottery sample. A: quartz, calcite, biotite, burnt straw & pyroxene. B: quartz, calcite biotite & pyroxene. C: quartz, biotite, calcite, burnt straw & rutile. D: quartz, calcite, biotite

For the third pottery sample, [FIGURE 4] showed the presence of fine to medium pottery texture of quartz grains, in addition to calcite, grog and rutile as in [FIGURE 4/A], another part of the same sample was examined showing presence of fine quartz granules, as well as grog, biotite, muscovite and rutile as in [FIGURE 4/B]. The examination of core illustrated presence of fine pottery texture of fine quartz granules, in addition to calcite, biotite, rutile, and burnt straw as in [FIGURE 4/C]. It also showed presence of fine pottery texture of fine quartz grains, as well as presence of calcite, biotite, rutile, and burnt straw as in [FIGURE 4/D].



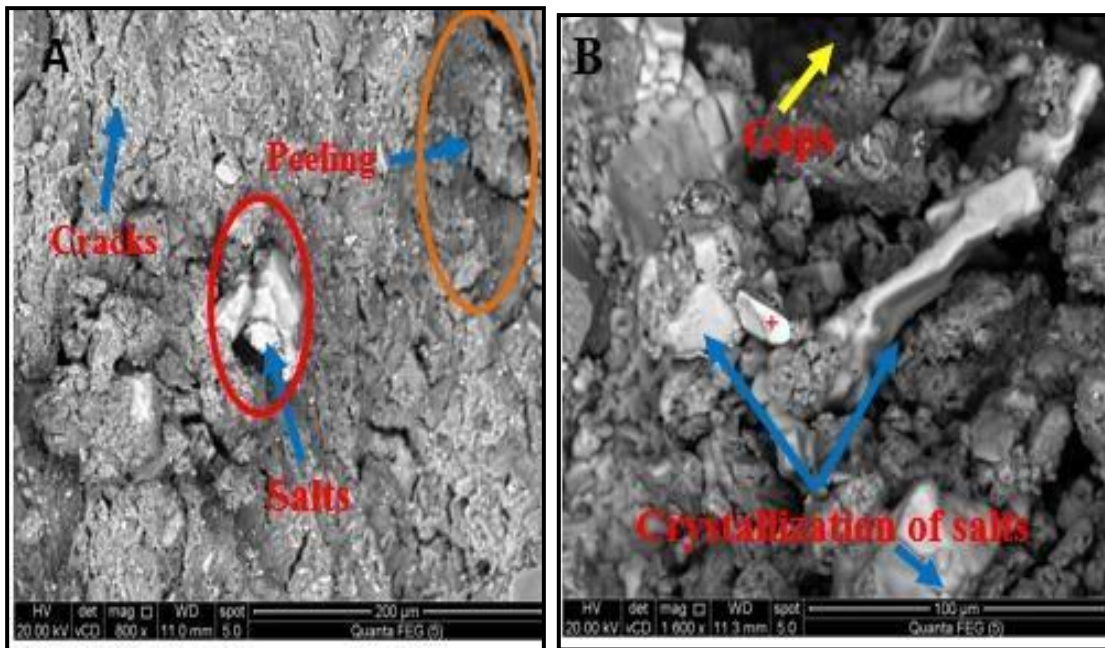
[FIGURE 4]: Petrographic examination of third pottery specimen: A: quartz, biotite & rutile. B: quartz, grog biotite & muscovite. C: quartz, biotite, calcite & burnt straw. D: quartz, calcite, burnt straw, biotite, grog & plagioclase.

C. Examination and Analysis by Scanning Electron Microscope with EDX Unit.

The pottery pieces extracted from Tell Abu Yasin in Sharkia were examined by environmental scanning electron microscope.

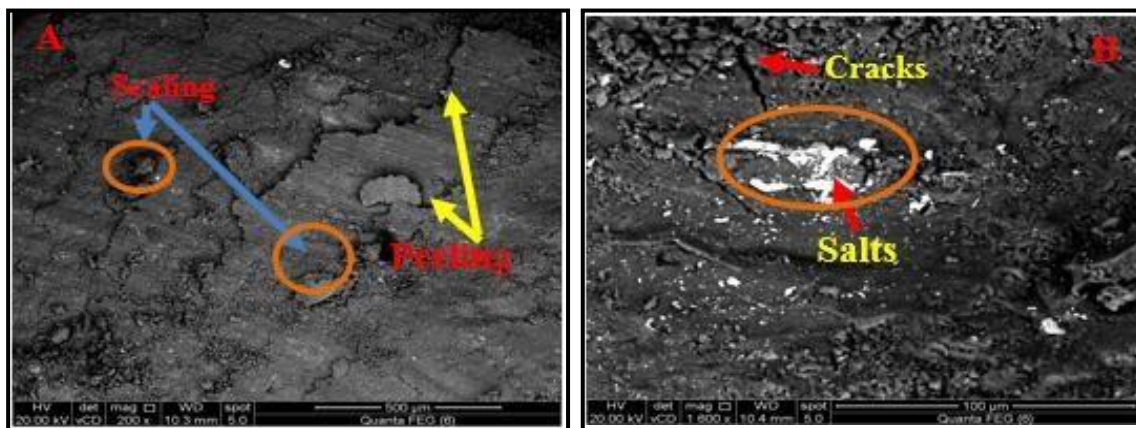
- Scanning Electron Microscope Examination

[FIGURE 5] shows scanning electron microscope examination of the first sample (surface area), where examination showed that the sample suffers from presence of soil sediments as a result of burial in the soil for thousands of years, gaps, cracks, peeling and crystallization of salts [FIGURE 5/A]. Another part was examined for the core area, where examination showed presence of some coarse quartz grains, as well as some gaps, peeling and crystallization of salts as in [FIGURE 5/B].



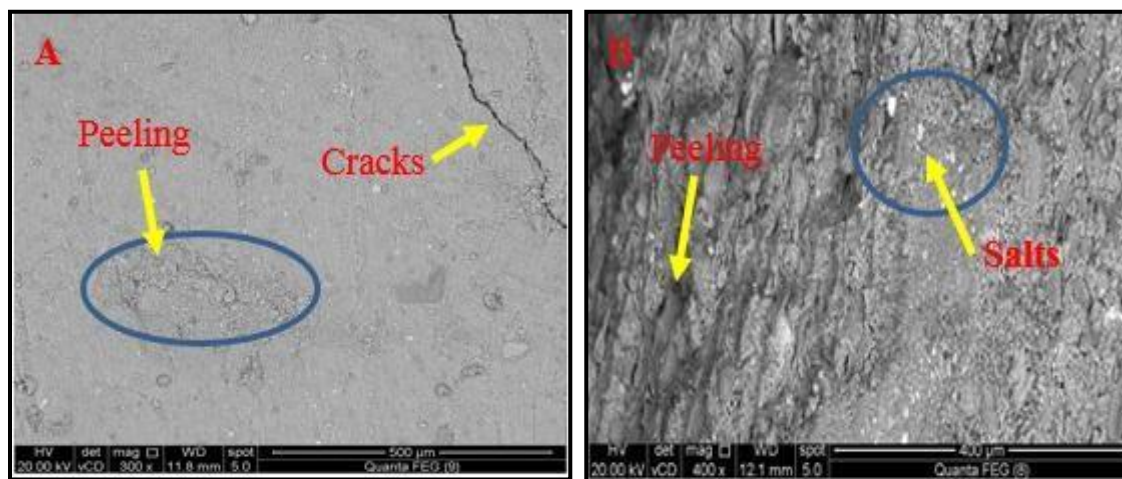
[FIGURE 5]: SEM examination of the first pottery specimen A: SEM examination of surface area (200X), B: SEM examination of core matrix (1600X).

The [FIGURE 6] showed scanning electron microscope examination of the second sample of the surface area, where it was found that the sample suffered from many cracks, gaps and scaling as in [FIGURE 6A]. Another part of core matrix was examined, where examination showed presence of some quartz grains, as well as some cracks, peeling of slip layer and crystallized salts as in [FIGURE 6/B].



[FIGURE 6]: SEM examination of the second pottery specimen. A: SEM examination of surface area (200X). B: SEM examination of core (1600X).

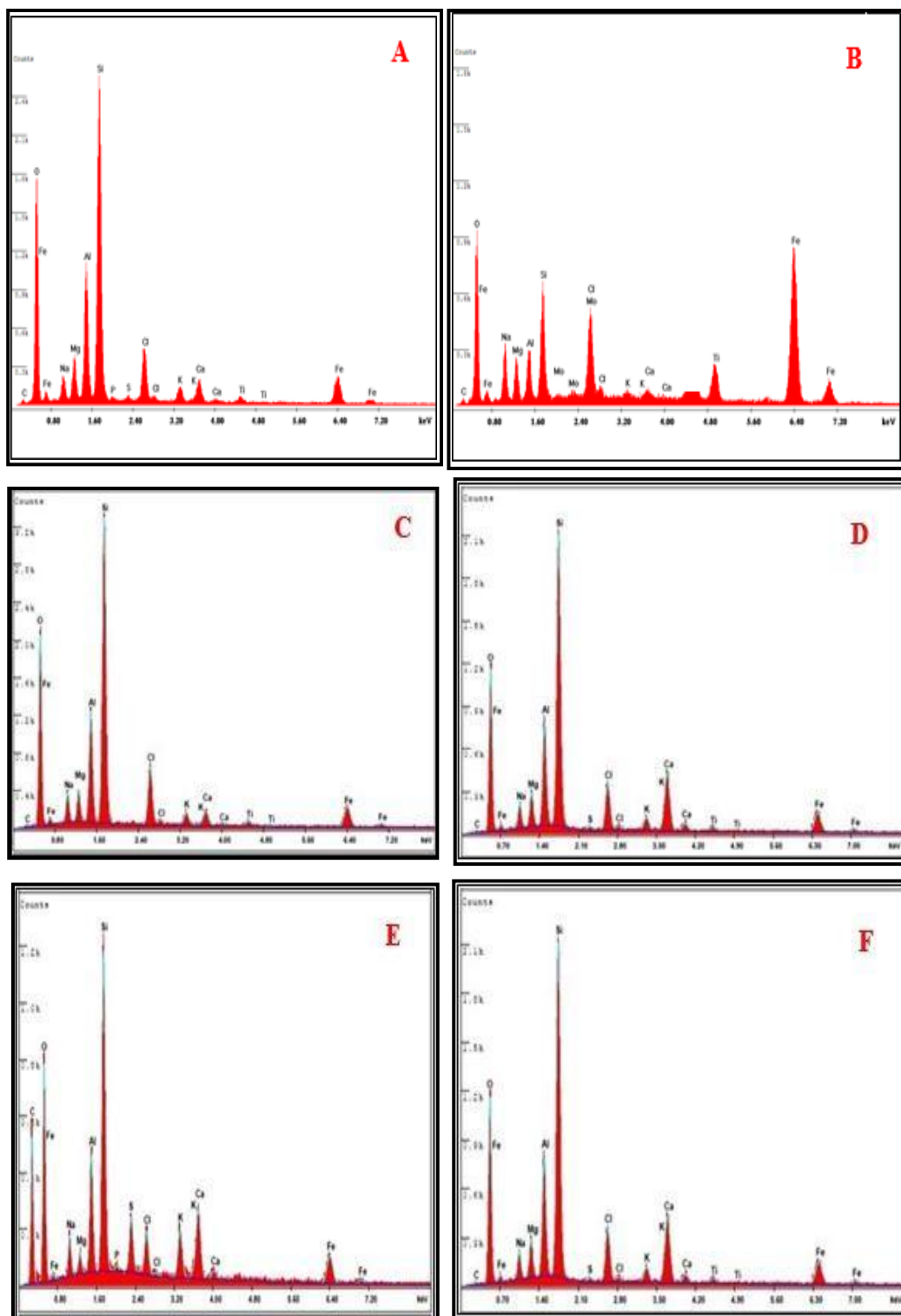
[FIGURE 7] represents scanning electron microscope examination of the thirdsample of surface area showing that the sample had a fine texture, as well as presence of cracks, peeling, and some parts of surface treatment as in [FIGURE 7/A]. Another part of core area was examined, where the examination showed presence of crusting of slip layer, some gaps and crystallization of salts as in [FIGURE 7/B].



[FIGURE 7]: SEM examination of the third pottery specimen. A: SEM examination of surface area (300X). B: examination by SEM of core matrix (400 X).

- Scanning Electron Microscope Analysis

The results of EDX analysis of three pottery specimens for surface and core as shown in [FIGURE 8/A-F] clarified the presence of carbon, oxygen, sodium, magnesium, aluminum, silica, molybdenum, sulfur, chlorine, potassium, calcium, titanium, vanadium and iron. These EDX analytical results for three sample results are shown in [TABLE 1].



[FIGURE 8]: A-F: EDX analysis patterns of pottery samples, Tell Abu Yasin, Sharkia. A-B: First pottery. C-D: Second pottery. E-F: Third pottery.

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Elemental Weight %	Surface	S1		S2		S3
		core	surface	Core	Surface	Core
C	5.57	1.66	1.20	1.06	2.94	26.92
O	13.50	27.57	27.54	26.16	13.26	22.08
Na	3.30	2.17	3.16	2.52	0.62	2.16
Mg	1.93	3.04	2.71	2.82	0.96	0.98
Al	2.15	9.87	9.67	8.60	6.32	5.35
Si	4.22	25.85	20.05	25.68	17.27	14.95
Mo	0.57	-	-	-	-	-
P	-	0.22	-	-	0.15	0.31
S	-	0.39	-	0.42	0.29	3.26
Cl	4.26	6.09	7.70	5.92	0.32	3.90
K	0.48	2.23	2.08	2.07	6.71	4.05
Ca	0.68	3.39	2.68	10.26	-	6.63
Ti	27.57	1.52	1.45	1.24	14.56	-
V	-	-	-	-	0.26	-
Fe	40.41	40.41	13.81	13.18	38.31	10.37

[TABLE 1]: EDX analytical results of investigated pottery sherds
Done by the author.

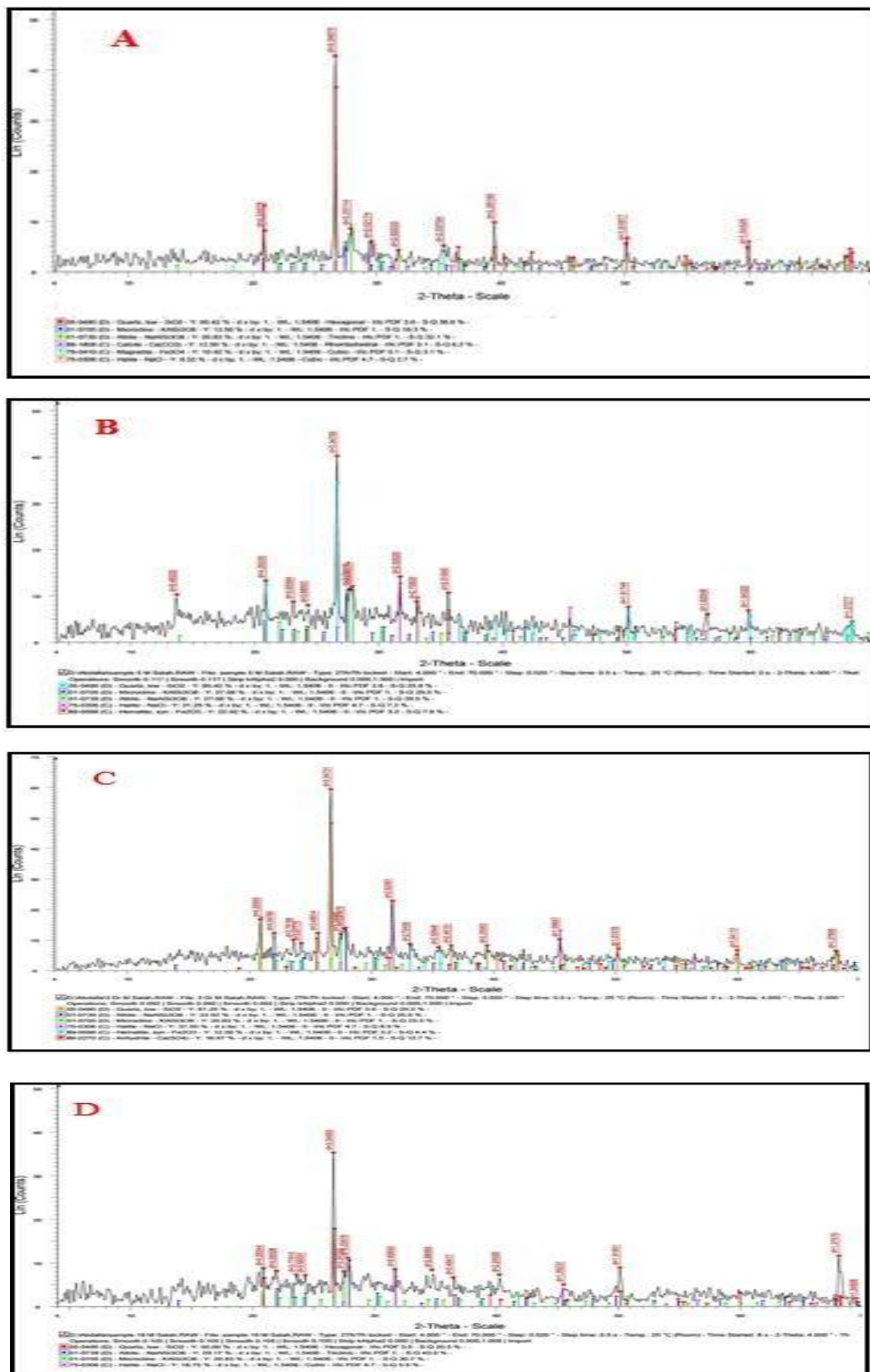
- X- Ray Diffraction Analysis

Three pottery samples and one soil sample from the archaeological site were analyzed by XRD. The pattern of three pottery samples showed presence of quartz SiO₂, microcline KAlSi₃O₈, albite NaAlSi₃O₁₀, halite NaCl, hematite Fe₂O₃, Magnetite Fe₃O₄, anhydrite CaSO₄. Soil sample pattern contained quartz SiO₂, microcline KAlSi₃O₈, albite NaAlSi₃O₁₀, halite NaCl, as shown in [TABLE 2] and [FIGURE 9/A-D].

Minerals	Chemical composition	a	b	c	d(soil)
quartz	SiO ₂	36.6	25.9	25.2	20.5
microcline	KAlSi ₃ O ₈	19.3	29.6	23.2	30.7
albite	NaAlSi ₃ O ₁₀	32.1	29.5	25.6	43
calcite	CaCO ₃	6.2	-	-	-
hematite	Fe ₂ O ₃	-	7.8	4.4	-
Magnetite	Fe ₃ O ₄	3.1	-	-	-
halite	NaCl	2.7	7.2	8.9	5.8
anhydrite	CaSO ₄	-	-	12.7	-

[TABLE 2]: XRD analytical results of investigated pottery sherds
Done by the author.

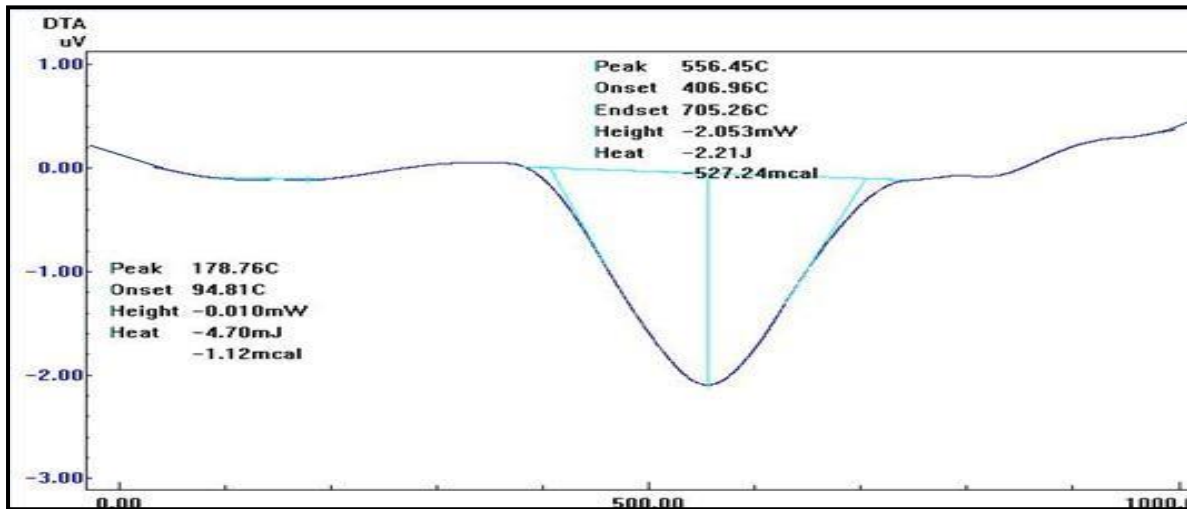
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[FIGURE 9]: XRD patterns of three pottery samples and one soil sample, Tell Abu Yasin, Sharkia, Egypt. A: the first pot. B: the second pottery plate. C: the third pottery vessel. D: soil sample.

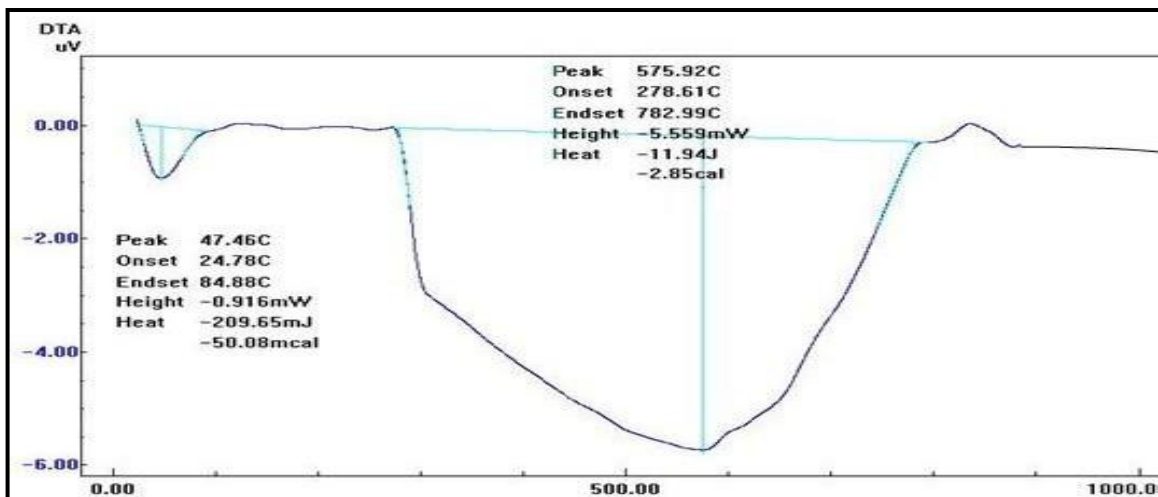
- Differential thermal analysis

Differential thermal analysis «DTA» of the first pottery sample showed slight mineral changes in firing temperature from 94.81°C to 178.76 ° C.; the mineral changes increased from 406.96 ° C to 705.26°C, and the stability of the mineral changes occurred in the range from 705.26 ° C to 1000 ° C. The results of mineral changes indicated that the firing temperature might have been about 705.26°C, as in [FIGURE 10].



[FIGURE 10]: DTA pattern of the first pottery sample, Tell Abu Yasin, Sharkia, Egypt

Differential thermal analysis «DTA» of the second pottery sample showed slight mineral changes in firing temperature from 24.78°C to 84.88 ° C, the minerals changes increased from 278.61°C to 782.99° C, the stability of the mineral changes ranged from 782.99°C to 1000°C. The results of mineral changes indicated that the firing temperature might have been about 782.99 ° C as in [FIGURE 11].

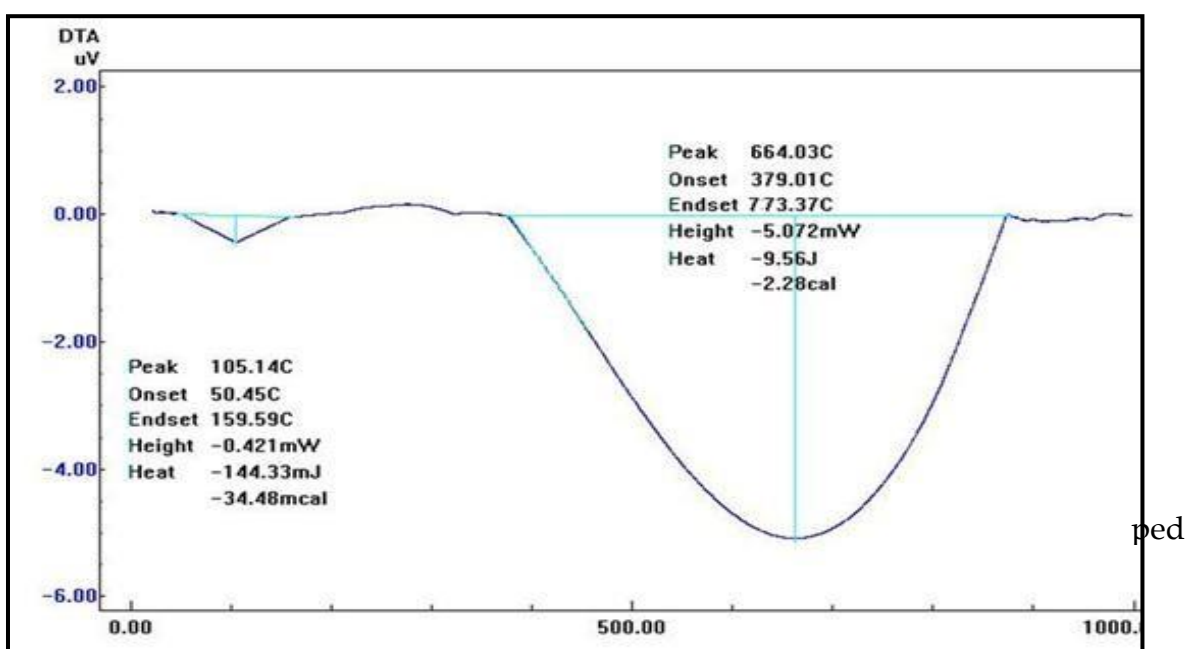


[FIGURE 11]: DTA pattern of the second pottery sample, Tell Abu Yasin, Sharkia, Egypt

Differential thermal analysis «DTA» of the second pottery sample showed slight mineral changes in firing temperature from 24.78°C to 84.88°C, the mineral changes increased from 278.61°C to 782.99°C, the stability of the mineral changes ranged from 782.99 ° C to 1000 ° C. The results of mineral changes indicated that the firing

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temperature might be about 782.99 ° C as in [FIGURE 11]. Differential thermal analysis «DTA» of the third pottery sample showed slight minerals changes in firing temperature from 50.45°C to 159.59 °C, the mineral changes increased from 379.01 °C to 773.37° C, the stability of the mineral changes ranged from 773.37 °C to 1000 °C. The results of mineral changes indicated that the firing temperature might have been about 773.37 °C as in [FIGURE 12].



[FIGURE 12]: DTA pattern of the second pottery sample, Tell Abu Yasin, Sharkia, Egypt

III. DISCUSSION OF RESULTS

A visual examination revealed that the pottery pieces in Tell Abu Yasin were shaped by potter wheel and coiling method, which was one of the common formation methods in ancient Egypt²⁷. Visual examination also showed presence of a large proportion of soil sediments, and the severity of damage depends on texture of pottery²⁸. Pottery suffered stains because the soil was rich in iron oxides²⁹, and one of the four pottery pieces suffered from soot due to reduced atmosphere inside the kiln or during functional use³⁰.

This pottery often suffered from presence of black core³¹. Pottery pieces suffered from fracture due to mechanical damage of the soil. The severity of the damage depends on type of pottery, soil chemistry, soil column, plants and trees in the soil, or by environmental shocks³².

²⁷ BOURRIAU 1981: 15.

²⁸ BUYS & OAKLEY 1999: 24.

²⁹ HODGE 1986: 147.

³⁰ WELSBY 1997: 27.

³¹ SHEPARED 2000: 75.

³² CRONYN 1996: 29.

The visual examination also proved presence of crystallization of salts as shown in [FIGURE 1].

The petrographic study using polarized microscope proved presence of muscovite, orthoclase, pyroxene, and rutile. These minerals are characteristic of the Nile clay confirming that the clay used in pottery manufacture at Tell Abu Yasin was Nile clay. Petrographic study also demonstrated presence of sand, burnt straw «where places of burning of burnt straw have been seen as evidence of the presence of organic matter (burnt straw), but it was burned during firing of pottery inside the kiln», limestone powder and grog (fillers were added during kneading of clay to improve the properties).

Petrographic study also proved existence of surface treatment by applying slip layer, where there was a difference in size of particles of slip layer from size of granules of pottery body. Manufacturer was always assiduous to select fine clay granules in slip layer «surface treatment»³³. It was evident from the petrographic study that the manufacturer had failed in surface treatment of the pottery plate, it was proven that slip layer was coarse clay grains, with larger size of granules of pottery body itself as in [FIGURE 4].

Petrographic study proved low temperature burning for first pottery vessel; this was confirmed by absence of firing minerals such as gahlenite and diopside, which are glass phases that appear at 850°C. It showed the quality of burning of the second and third pottery piece; this was confirmed by presence of hematite³⁴.

Examination and analysis by scanning electron microscope coupled with X-ray energy dispersion unit (SEM-EDX) confirmed that clay used in the manufacture of pottery at Tell Abu Yasin is Nile clay due to presence of some oxides such as sodium, potassium, calcium, iron and magnesium, which are characteristic of Egyptian Nile clay³⁵. It also illustrated presence of calcium carbonate (C, Ca) as one of the added fillers³⁶, in addition to crystallized salts such as halite, carbonates, sulfates and phosphates salts due to burial in saline soil as shown in [FIGURES 5-7]. Examination and analysis confirmed low burning temperature due to the presence of carbon dioxide at a high rate, which reached 4.07% in some samples³⁷.

Moreover, the presence of sulfates salts, where the percentage of sulfur oxide reached between 2.14% to 7.65% , and the presence of halite salts, where the percentage of chlorine in samples reached between 3.69% to 6.87%, were noted [FIGURE 8 /A-F].

Analysis by XRD revealed the presence of mica and microcline confirming that clay used in manufacture was Nile clay, it also showed firing temperature of pottery samples. In the first sample, calcite existed as a trace component up to 600-800 °C, and it decomposed completely on firing around 800-850°C. This indicates that the burning

³³ NICLOLSON & SHAW 2000: 67.

³⁴ GRIMSHAW 1971: 561.

³⁵ 'EL-GOHARY et AL 2019: 17611.

³⁶ NAGWA 2016: 22.

³⁷ MOHAMED 2019: 232.

temperature of the first sample may have been between 700°C to 800°C. XRD. It also confirmed good firing for the second and third piece due to the presence of hematite. Furthermore, it proved that limestone powder was used as one of the additive fillers due to the presence of calcite in the first sample as in [FIGURE 9/ A]. XRD also illustrated the presence of halite salts in all samples, and the presence of quartz, microcline, albite and halite in the soil sample, which proves that the source of the salts in pottery samples was soil from Tell Abu Yasin in Sharkia as in [FIGURE 9/D].

Differential thermal analysis «DTA» indicated that the firing temperature degree of the samples might have been about 705.26°C for the first pottery sample; 782.99 °C for the second sample and 773.37 °C for the third pottery sample according to mineral changes as in [FIGURES 10,11,12]³⁸.

IV. CONCLUSION

The research has concluded some important results in identifying technological process and damage of pottery objects at Tell Abu Yasin in Sharkia. It proved that the clay used was Nile clay; and additions were sand, burnt straw, grog and limestone powder. Surface treatment was slip layer in samples; while burning atmosphere inside the kiln was reduced for the first pot and oxidized to the second and third pieces. It also illustrated mechanical and physiochemical damage, whether from manufacture defects or effect of burial environment. It has proved the presence of soil sediments, crystallization of salts «carbonate, sulfates, chloride», cracking, peeling, stains and poor physical structure. The research recommends that it should be treated and maintained based on the results of the tests and analyses that have been proven by the researcher in this study.

V. ACKNOWLEDGEMENT

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³⁸ SA'D 2018: 95- 97.

BIBLIOGRAPHY

- ABD 'EL -HAMID, S.M.: «Horbaït: Site and History», *Annals of the Supreme Council of Antiquities* 4, 2007, 668-677.
- ABDEMMONIEM, M., NAGLAA, M., WAEL, S.M., ASHRAF Y.E., & AHMED, A.: «Archaeometry Study of a Polychrome Wooden Coffin from 26th Dynasty-Egypt», *Mediterranean Archaeology and Archaeometry* 20/1, 2020, 7-17.
- ASHURST, J., & ASHURST, N.: *Practical Building Conservation 2*, Brick, Terracotta and Earth, London (Gower Publishing Ltd), 1989,72-73.
- BAYAZT, M., ISIK, I., ISSI, A. & GENÇ, E.: «Spectroscopic and Thermal Techniques for the Characterization of the First Millennium AD Potteries from Kuriki-Turkey», *Ceramics. International* 40, 2014, 14769–14779.
- BIRDI, K. S.: «Scanning probe Microscopes» in *Application in Science and Technology*, 1-15, London, 2003, 1- 2.
- BOUKHENOUF, A., & IAICHOUCHEM, O.: «Study of Terracotta Vaulting Tubes from A new Archaeological Site in Miakou, Algeria», *International Journal of Conservation Science* 11/ 1, 2020, 51-60.
- BOURRIAU, J.: *Pottery from Nile Valley before the Arab Conquest*, London (Cambridge University Press) 1981,15.
- BUYS, S., & OAKLEY, V.: *The Conservation and Restoration of Ceramics*, Oxford (Routledge) 1999, 24 .
- CINTEZA, L.O., & EMANDI, A.: «Trends in Nanotechnology-Based Analytical Methods in Cultural Heritage», *International Congress Chemistry for cultural heritage*, Istanbul, 2012, 28.
- CLIMENT,A.S., CARLOS,J.S., FRANCISCO,J.P.,& MARIA,L.C.: «Archaeometric Characterization of the Ceramics from two Celtiberian Hillforts: Preliminary Results», *Mediterranean Archaeology and Archaeometry* 18/ 1, 2018, 237-253.
- CRONYN, J.: *The Elements of Archaeological Conservation*, Oxford: (Butterworth, Heinemann, ltd.) 1996, 29.
- 'EL-GHARIB, W.: «Study of Treatment and Maintenance of Bronze and Pottery Antiquities Extracted from Excavations», *Ma Thesis*, Faculty of Archeology/ Cairo University, 2001, 150-155.
- 'EL- GHAREB, W.: «Analytical Study of Some Unfinished Obelisk Quarry Pottery Vessels in Aswan, Egypt, Case Study», *American International Journal of Contemporary Research* 7/ 4, 2017, 76-77.
- 'EL-GOHARY, M., EL-GHAREB, & W. SAAD, M.: «Damage Quantification of Archaeological Pottery in Sheikh Hamad «Athribis» Sohag *Ceramics International Journal* 45 /14, 2019, 17611-17619.
- FLORIAN, M.: «The Underwater Environment», in *Conservation of Marine Archaeological Objects*, Edited by PEARSON, C., London (Butterworth-Heinemann) 2000.
- GRIMSHAW, R.: *The Chemistry and Physics of Clay*, London (Wiley-Interscience) 1971, 560 – 561.
- HAMITON, D.: *Methods of Conserving Archaeological Materials from under Water sites*, Texas (Texas University Press) 1998.
- HODGE, H. W.: «The Conservation and Treatment of Ceramics in the field», in *Situ Archaeological Conservation*, Edited by HODGE , H.W., London (Oxford University Press) 1986.
- HOGG, S.T., MACPHAIL , D.S., OAKLEY, V., & ROGER, P.S.: «Modern Instrumental Methods for The Study of The Deterioration of Vessel Glass» in *The Conservation of Glass and Ceramics* , Edited by TENNENT , N.H., 40-52, London (Maney - Heritage) 1999.
- KAMEL, I.: *East Delta Region*, Cairo: (Supreme Council of Antiquities press) 1981.
- MABROUK, M., & YOSR, E., «Archaeometrical Study of a Rare Embroidered and Appliqued Leather Tapestry from the Safavid Art Works. Part 1: Weaving Fibers and Dyes», *Mediterranean Archaeology and Archaeometry* 20/1, 2020, 163-171.
- MIRTI, P.: «The Use of Colour Coordinates to Evaluate Firing Temperature of Ancient Pottery», *Archaeometry* 40 /1, 1998,45.
- Mohamed, S. «Analytical Study of Techniques of Archeological Pottery in Sinai with Treatment and Conservation of Some Selected Objects» *MA Thesis*, Conservation Dept., Faculty of Archaeology/ Fayoum University., :2019.

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- MORO, D., ULIAN, G., & VALDRE, G.: «SEM-EDS Microanalysis of Ultrathin Glass and Metal Fragments: Measurement Strategy by Monte Carlo Simulation in Cultural Heritage and Archaeology», *International Journal of Conservation Science* 11/1, 2020, 223-232.
- NAGWA, S.: «Analytical Study and Conservation of Archaeological Terra Sigillata Ware from Roman Period, Tripoli, Libya», *Journal of Applied Science and Technology* 2/2, 2016, 22.
- NICLOLSON, P. T., & SHAW, I.: *Ancient Egyptian Materials and Technology*, London (Cambridge University Press) 2000.
- NOUREDDINE, A.: *Ancient Egyptian Antiquities Sites from the Earliest Times Until the End of the Dynastic Ages*, Part 1, Lower Egypt, Cairo (Dar al-Aqsa for Printing and Publishing) 2018.
- PEARSON, C.: «Deterioration of Ceramics, Glass and Stone» in *Conservation of Marine Archaeological Objects*, edited by PEARSON, C., Oxford (Butter Worth, Heinemann, Ltd.,) 2000.
- PLENDERLEITH, H. J.: «Problems in the Preservation of monuments» in *the Conservation of Cultural Property*, London (Oxford University Press) 1968, 125.
- PRICE, N.S.: «Excavation and Conservation» in *Conservation of Archaeological Excavation*, Edited by STANLEY PRICE, Italy (ICCROM, Rome) 1984, 4.
- RIEDERER, J.: «Thin Section Microscopy Applied to the Study of Archaeological Ceramics», *Hyperfine Interact* 154, 2004, 143–158.
- SAD, M.: «Usage of Nano Materials in the Conservation of Archaeological Pottery: An Experimental Applied Study on Some Excavated Objects from El-Sheikh Hamd-Sohag» *MA Thesis* Conservation Dept., Faculty of Archaeology/ Sohag University, 2018.
- SHEPARED A.O.: *Ceramics for the Archaeologists*, Washington (institution of Washington. Braun-Brumfield, Inc) 1981.
- SMITH, A.: *Risk Assessment for Object Conservation*, Oxford (Butter Worth, Heinemann, Ltd.) 1999.
- STOLTMAN, J.: «The Role of Petrography in the Study of Archaeological Ceramics», in *Earth Sciences and Archaeology*, Edited by GOLDBERG, P., HOLLIDAY, V. & FERRING, C.), New York (Kluwer Academic) 2001, 297–326.
- TURKTEKI, S.: «Beycesultan Early Bronze Age I Pottery Group in The Light of New Data», *Mediterranean Archaeology and Archaeometry* 20/1, 2020, 59-75.
- WELSBY, D.: *Early Pottery in the Middle Nile Valley in the Pottery in The Making World Ceramic Tradition*, London (British Museum Press) 1997.

التركيب الدقيق وتقييم تلف بعض الآثار الفخارية البطلمية

بتل آثار ابوياسين بالشرقية مصر: دراسة حالة

وليد كامل على الغريب

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المخلص

تل آثار ابوياسين من أهم مواقع محافظة الشرقية، ويقع على بعد ٤ كم جنوب شرق ابو كبير و ٤٠ كم شمال شرق الزقازيق، وهو ينتمي من الناحية الأثرية إلى العصر البطلمي حيث كشفت الحفائر التي قامت بها بعثة المجلس الأعلى للآثار عن العديد من الآثار الفخارية المختلفة الأشكال والألوان، فضلا عن العديد من مواقع الأفران المختلفة وجبانة تضم بعض التوابيت الجرانيتية. وتم إجراء العديد من الفحوص والتحليلات المختلفة مثل الفحص بالميكروسكوب المستقطب (PLM) Polarized Microscope والتحليل بالميكروسكوب الإلكتروني الماسح المزود بوحدة تشتت طاقة الأشعة السينية « Scanning Electron Microscope with Energy Dispersive of X-Ray Unit والتحليل بطريقة حيود الأشعة السينية (XRD) X-Ray Diffraction analysis والتحليل الحراري (DTA) Thermal Analysis. واستخدمت الفحوص والتحليلات المختلفة بغرض التعرف على تكنولوجيا الصناعة وتشخيص مظاهر تلف بعض القطع الفخارية بتل ابوياسين بالشرقية كدراسة حالة. ولقد أثبت البحث أن الطفلة المستخدمة في صناعة الفخار الأثرى بتل ابوياسين بالشرقية بشرق الدلتا من نوع الطفلة النيلية Nile Clay، أما الإضافات Tempers عبارة عن الرمل sand ومسحوق الفخار «grog» pottery powder ومسحوق الحجر الجيري limestone powder والتبن المقرط burnt straw من خلال ملاحظة أماكن حرق التبن المقرط اثناء الحرق للفخار داخل الفرن، وتقنية التشكيل المستخدمة هي تقنية التشكيل بالعجلة potter wheel والمعالجة السطحية Surface Treatment من نوع طبقة البطانة Slip Layer، أما جو الحرق داخل الفرن كان جوا مختزلا للقطعة الأولى ومؤكسدا للقطعة الثانية والثالثة. كما أثبت البحث أيضا أن معظم الآثار الفخارية بتل ابوياسين بالشرقية بشرق الدلتا تعاني من التلف الفيزيوكيميائي Physiochemical damage مثل رواسب التربة soil sediments، بالإضافة الى ظاهرة الكسر breaking، والتقشر peeling والتشريح cracking والضعف weakness، والهشاشة fragility وتبلور الأملاح مثل الكلوريدات chlorides والكبريتات sulfates والكربونات carbonates من جراء الدفن في التربة. ويوصى البحث بترميم وعلاج وصيانة تلك القطع الفخارية بناءً على نتائج الفحوص والتحليلات وتقييم مظاهر التلف للقطع الفخارية بالموقع الأثرى التي أثبتتها البحث.

الكلمات الدالة: الفخار، الطفلة، الإضافات، المعالجة السطحية، طبقة البطانة، جو الحرق، التشريح، التقشر.