

A New Light on Coptic Cryptography

عرض جديد للكتابات الطلمسية القبطية

Hind Salah-Eldin*

ملخص:

تعد الكتابات الطلمسية القبطية أحد أهم مظاهر الخط القبطي؛ وذلك نظرًا لما يمكن أن تكشف عنه من أسرار هذا الخط، كما تلقي بمزيد من الضوء على تاريخه وعلى حياة الرهبان المصريين الذين استخدموه خصيصًا في العديد من الأهداف والأغراض المتنوعة؛ فقد استخدم الرهبان الأقباط الكتابة الطلمسية القبطية لإخفاء الصيغ المختلفة في الشروح والكتابات والرسائل التي تداولوها خلال حياتهم الرهبانية. ولقد تم تسجيل ما يقرب من ثلاثين نموذجًا حتى الآن من الكتابات الطلمسية القبطية، والتي توزعت ما بين الكتب الدينية المختلفة، أو على جدران وأعتاب بعض الكنائس والأديرة، وكذلك على بعض الصخور والأحجار المتفرقة فوق التلال المنتشرة في الصحاري المصرية.

وتهدف هذه المقالة إلى نشر قطعتين فريدتين من قطع الشقافة القبطية من الصحراء الغربية المصرية، واللتين تحتويان على بعض نماذج الكتابات الطلمسية القبطية. ولقد جاءت الشقافة الأولى من متحف الحضارة بالقاهرة والتي تحمل رقم ٤٠٨. ومن الجدير بالذكر أن هذه القطعة تمثل واحدة من مجموعة الشقافات القبطية التي تحصلت عليها من متحف الحضارة من أجل إعداد أطروحة الدكتوراه الخاصة بي وهي قيد النشر حاليًا. أما القطعة الثانية فقد جاءت من ناتج الحفائر التي جرى تنفيذها في منطقة الدير البحري عام ١٩٢٦، وهي محفوظة حاليًا بالمتحف القبطي بالقاهرة، وتحمل الرقم ٤٥٦٣.

وتحمل هاتان الشقافتان صيغًا فريدة من الكتابات الطلمسية القبطية. وتكمن الأهمية فيهما أنهما تلقيان بالمزيد من الضوء على أنظمة الكتابة الطلمسية القبطية، وكذلك على حياة الرهبان في الصحاري المصرية خلال العصر المسيحي.

Coptic cryptography is one of the most important aspects of the Coptic script, for it can reveal its secrets, shed light on its history as well as the lives of the Egyptian monks who used it for different aims and purposes. Only about thirty examples of Coptic cryptography have been recorded so far which were scattered in religious books, the walls and the doorposts of churches and the monasteries, as well the cliffs of the Egyptian deserts.

The aim of this paper is to publish two unique Coptic ostraca from the Western Desert of Egypt which contains some forms of the Coptic cryptography; the first one is from the National Museum of Egyptian Civilization (NMEC) under the number 408;** the second one came from the excavations at Deir El-Bahari in 1926, and is now in the Coptic Museum in Cairo under the number 4563.

Text:

1-]		Δ			Η	Θ	Ι	Κ
2-]		ζ	ε	λ	Β	Α	ϸ	π
3-]		///	ο		π		Ϸ	
4-]	ξ	Ν	λ		κ	ρ	ω	
5-	ϣ	Φ	ψ		ω			
6-	ϣ	Φ	τ		Ϸ			

Comment:

Subject: This ostracon holds an exercise for the first system of Coptic cryptography. The First system of the Coptic Cryptography was a familiar system which was used by the Copts in writing their texts. It was borrowed from a Greek system which was based on the division of the Greek alphabet into three portions and then inverting the letters of each row to replace the normal row by the inverted one as follows: α β γ δ ε ζ ζ η θ becoming θ η ζ ζ ε δ γ β α, i.e.; the Greek letter α replaced by θ, β replaced by η, and δ replaced by ζ and so on as follows:¹

O.408: (Plate I)

Provenance: Qurna.

Material: Ribbed Pottery.

Color: Reddish Brown.

Dimensions: L = 7cm, W = 7.8 cm.

General Description: The text partly is in a good condition of preservation, because the ostracon had been broken from the upper left side, which in turn has damaged the text there. Also, there are some scratches on the surface of the ostracon, which has damaged some parts from the extant text, especially between the second and the third lines. Accordingly, the text is not complete; it only comprises six lines of writing which were rendered by the scribe in black ink in a regular, clear handwriting.

α = θ	ι = ϩ	ρ = ϧ
β = η	κ = π	Ϸ = ω
γ = ζ	λ = ο	τ = ψ
Δ = ζ	μ = ξ	ϣ = ϣ
ε = ε	η = η	φ = φ
ζ = λ	ξ = μ	ϣ = ϣ
ζ = γ	ο = λ	ψ = τ
η = β	π = κ	ω = Ϸ
θ = α	ϩ = ι	ϧ = ϩ

Dialect: The dialect of the text can be either Sahidic or Bohairic because the extant text displays



(Plate I)

only the Coptic letters of the Greek origin without the borrowed native Demotic alphabet.

Line 1: The scribe did not write an equivalent for the Coptic letter ϵ in the second line, and he did not write the stigma over its equivalent in the second line, i.e. the Coptic Δ .

Line 3: 'The Coptic vertical Cryptogram Nu' ///: As the first system of Coptic Cryptography was not able to modify ϵ , π , and ϕ which were located in the centre of each row, so they were either left as they are or they were replaced with Cryptogrammic ones; for instance, the Coptic letter π was replaced with /// 'Coptic Vertical Cryptogram Nu' as has been stated on this ostracon while the Coptic letter ϵ was replaced

with 'Coptic Horizontal Cryptogram Eie'.² But here the scribe encrypted only the Coptic letter π and left the rest of the two letters, i.e. ϵ and ϕ as they are.

Line 4: The scribe did not write the Sampi Ϡ in the third line over its equivalent, i.e. the Coptic letter ρ in the fourth line.

Conclusion

This ostracon had revealed some remarkable results:

- 1- The importance and significance: This ostracon is important for the study of the Coptic Cryptography because it contains a clear evidence for what we can call 'A Key' for the scribe rendered the original letter over its cryptographical equivalent. As far as I know, this ostraca is unique, for only about thirty published examples of Coptic cryptography texts have been recorded until now as had been mentioned above, and no one of them holds this 'Key' by this form, but further studies and publications in this field will reveal other texts like this 'Key' because this type of text served as an exercise by the writer to himself or to someone in order to memorize the alphabets in their Crypto-graphical form.
- 2- Date and provenance: To determine the date and provenance of this ostracon, I depended on the results that were obtained from the PhD research. In fact, this ostracon belongs to a community of monks who lived since the end of the sixth century and the beginning of the seventh century at Sheikh Abd El-Qurna, probably in TT 85 or TT 87, the Eighteenth Dynasty tombs of Amenemhab and Nakhtmin, or the area around them. This community revered two superiors among them: Father Ananias and Father Pisrael. They were well known characters who lived in Thebes since the end of the sixth century and the beginning of the seventh century. The community

contained some personalities involved with Father Ananias and Father Pisrael in various matters, i.e. in religious and daily matters as, for example, ‘Andrew’ ἀνδρεας ‘Enoch’ ενωχ ‘Elizabeth’ ελισαβηκ, ‘Benjamin’ βηη, ‘Shenoute’ σηνουτε, ‘Petronius’ πετρονιος, ‘Frange’ φρανγε, ‘Anoute’ ανουτε, ‘Patermouthius’ πατερμουτε, ‘Parnoute’ παρνουτε, ‘George’ γεωργιος ‘Samuel’ σαμουηλ, ‘Isaac’ ισακ, ‘Zachariah’ ζαχ αρια, ‘Arianous’ αριανος, ‘Ebraham’ εβραζαμ and ‘Bes’ βης, in addition ‘Johannes’ ιωαννης, ‘Pesenthus’ πεσητε ‘Ananias’ ανανιας ‘Peter’ πετρος, ‘Victor’ βικτωρ. Thus, this ostracon was a cultural aspect for the Coptic monks who were teaching themselves the First System of Coptic cryptography in their solitary life, and also maybe it was written by either Father Ananias or Father Pisrael or some welcomed monk from the community who lived at Qurna, or these two tombs, and that he wrote this ostracon as an exercise for the First system of Coptic cryptography for him in order to learn by heart the letters of the Coptic alphabet in this form.³

O. 4563: (Plate II-III)

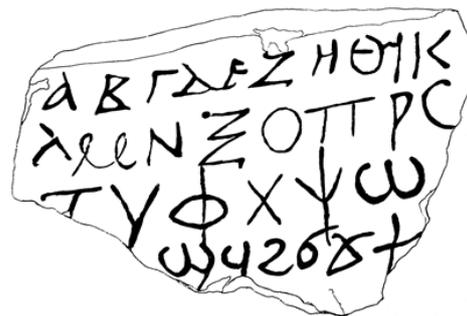
Provenance: Deir El-Bahari.

Material: Limestone.

Color: Yellowish.

Dimensions: L = 8 cm, W = 10.5.

General Description: The text is in a good condition of preservation. It is complete, and was written on both sides of the ostracon: the recto and the verso. The recto comprises four lines of writing which were written by the scribe in black ink, while the verso comprises four lines of writing which were written by the scribe in black ink as well as red ink, and the latter was used specifically at the beginning of the third and the fourth lines. The scribe has a good, regular, and clear handwriting.



(Plate II)

Text:

Recto:

- 1- α β γ δ ε ζ η θ ι κ
- 2- λ μ ν ξ ο π ρ σ
- 3- τ υ φ χ ψ ω
- 4- ω ς Ϸ ϸ Ϲ Ϻ

Verso:

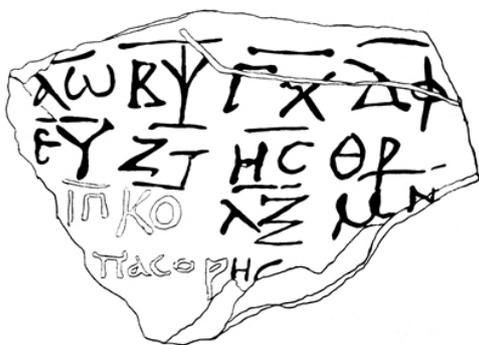
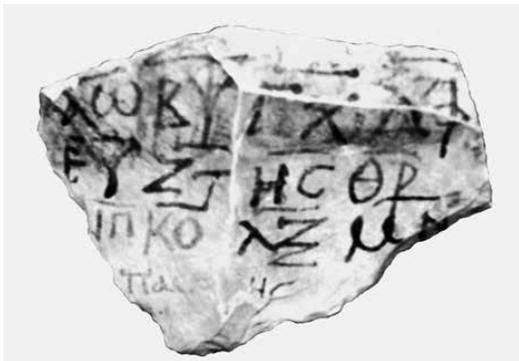
- 1- ᾱω̄ β̄ψ̄ γ̄ϣ̄ δ̄φ̄
- 2- ε̄ν̄ ζ̄τ̄ η̄ς̄ θ̄ρ̄
- 3- ῑπ̄ κ̄ο̄ λ̄ζ̄ μ̄η̄
- 4- πασορης[

Comment:

Subject:

Recto: The Coptic alphabet.

Verso: The Coptic numerical system which was borrowed from the encoded Greek numerical system



(Plate III)

for numbers based on the principle of attaching a numerical value to the letters of the alphabet which runs as follows:⁴

1= α	10= ι	100 =ρ
2= β	20= κ	200= σ
3= γ	30= λ	300= τ
4= δ	40= μ	400= υ
5= ε	50= ν	500= φ
6= ζ	60= ξ	600= χ
7= ζ	70= θ	700= Ψ
8= η	80= π	800= ω
9= θ	90= ϣ	900=ϛ or: ϝ

Dialect: Sahidic.

Verso:

Line 1-2: It is notable that the scribe rewrote some letters, for we can see some traces of writing above the first line and at the background of the second line, but

unfortunately, the latter has disappeared. As for the former, it is still visual, and by examining it revealed that the faint traces over the end of the first line were the Coptic letters $\overline{\epsilon\nu}$ $\overline{\zeta\tau}$ which were then written by the scribe in their right order at the beginning of the second line.

The scribe did not write the Stigma ζ for 6, the Qobba ϣ for 90, as well the Sampi ϛ for 900.

Conclusion:

This ostrakon is very interesting. It holds in its recto the complete Coptic alphabet which can imply that the scribe was learning by heart the alphabet of the Coptic script according to his dialect. For it was common between the Egyptians and not among the monks only, in the Christian time, to do so as a kind of memorizing. The verso holds the serial of the Coptic alphabet as well the Coptic numbers respectively: the units, the tens, and the hundreds as follows:

$\overline{\lambda\omega}$ 1+800	$\overline{\beta\psi}$ 2+700	$\overline{\nu\chi}$ 3+600	$\overline{\alpha\phi}$ 4+500
$\overline{\epsilon\nu}$ 5+400	$\overline{\zeta\tau}$ 7+300	$\overline{\eta\sigma}$ 8+200	$\overline{\theta\rho}$ 9+100
$\overline{\iota\pi}$ 10+80	$\overline{\kappa\theta}$ 20+70	$\overline{\lambda\xi}$ 30+60	$\overline{\mu\eta}$ 40+50
$\overline{\pi\alpha}$ 80, 1	$\overline{\sigma\theta}$ 200, 70	$\overline{\rho}$ 100	$\overline{\eta\sigma}$ 8, 200

In fact, it is obvious from the recto and the verso combined together the fact that the scribe was learning by heart the Coptic alphabet as well the Coptic letters' numerical values. I want to add a supposition here concerning verso, i.e. the Coptic numerical serial. I think that the scribe was not only aiming to memorize the value of the Coptic letters as numbers, but also he aimed at the significance behind the numbers, and this latter is a science in the Bible by itself. This supposition has come to my mind according to some points which can be classified as follows:

1- There is a unique recorded example from the Monastery of Epiphanius on which the Coptic letters of the Greek origin were used as a long key for the First System of Cryptography as mentioned above, through a conventionalized phrase as follows:

ΑΒΡΟΧΕΙΔΩΝ ΤΟ ΦΥΛΑΞ ΘΗΡΑΖΥΓΩΚΑΜ
ΨΙΜΕΤΟΠΟΣ

αβροχιτων δ ο φυλαξ
θηροζυγοκαψιμετωποζ

This was the Grottesque formula from *Anthologia Graeca Epigrammatum Palatina* (Book IX, No. 538), and it was transcribed below it as follows:⁵

ΘΗΖΣΕΓΒΑ ΨΠΟΞΙΜΜΙΔΚ ϜΩΨΧ ΦΥΤΟ

Thus the scribe of this verse aimed to use the twenty-four letters of the Greek origin to render a sentence with a specific meaning. This happened in our ostrakon also because the scribe did not write the stigma ζ for 6, the qobba Ψ for 90, as well the sampi Ϝ for 900, and preferred the twenty-four letters only without the added letters which were used to indicate the numerals 6, 90, and 900.

- 2- The scribe used red ink when he alerted himself by the repeated numbers, i.e. at the beginning of the third line he wrote the group $\overline{\iota\pi}$ and $\overline{\kappa\omicron}$ in red ink because they have the same numbers with the same significance and not the same values, with the group $\overline{\alpha\omega}$ and $\overline{\text{ΒΨ}}$.
- 3- The scribe did not mean by his significance the numerical added value of the two letters that he grouped them under a superliner stroke because although the numerical value of the first group $\overline{\alpha\omega}$ is 1+ 800 is 801, which corresponds to the dove as both the value of its letters ΠΕΡΙΣΤΕΡΑ and the value of the two letters as numbers is 801 and also the $\overline{\alpha\omega}$ is the famous symbol of the

Christ as the beginning and the end of the world from (Revelation 22:13) 'I am the alpha and the omega, the beginning and the end' the rest of the numerical values has no significance in the Bible, i.e. the values 405, 504, 603 has no significance.

4- I presume that the scribe meant the significance behind the unit number, and thus I gathered the closest significances to my work from many sources from that field as follows:⁶

Number One:	Unity, New beginnings, The One God,
Number Two:	Union, Witnessing,
Number Three:	Divine Perfection,
Number Four:	Creation of the world or the Creative works,
Number Five:	Grace of God,
Number Six:	Application of works, Manifestation of sin,
Number Seven:	Completeness or Father perfection,
Number Eight:	New birth or New beginning,
Number Nine:	Divine Completeness, Eternity,

So I suppose that the numbers can be read as follows:

- a- $\overline{\alpha\omega}$: The one of the New beginning of the world's end. i.e. The God Father.
- b- $\overline{\text{ΒΨ}}$: The two in perfection i.e. the Second person of the Trinity or the God and the Son in their perfection.
- c- $\overline{\text{ΥΧ}}$: The third (three) in totality, i.e. the Holy Spirit or the Trinity (Son and the Father-the Holy Spirit) in one person.
- d- $\overline{\lambda\phi}$: The creation of the Earth by the Grace of God.
- e- $\overline{\epsilon\gamma}$: The Redemption of the world.
- f- $\overline{\zeta\tau}$: The application of the work of the Trinity.

g- $\overline{\text{nc}}$: The New beginning of the Second.

h- $\overline{\text{op}}$: The Eternal God.

Then the scribe alerts himself by red ink as the reading is to be repeated again through.

$\overline{\text{in}}$: The New Beginning of the One God Father.

$\overline{\text{ko}}$: The Second in perfection.

$\overline{\text{z}}$: The Third (three) in totality.

$\overline{\text{un}}$: The creation of the Earth by the Grace of God.

Then the scribe at the end of his text added seven letters as follows:

$\overline{\text{ncopnc}}$ i.e. 80, 1, 200, 70, 100, 8, 200.

Regarding that, the scribe used seven numbers in which the number seven represents perfection. It is worth noting here that the scribe wrote the first five letters in red ink and the last two in black ink, and this when he alerts himself by the repeated numbers which can be read as follows: The first part (i.e. five letters) $\overline{\text{ncopnc}}$; the New beginning of the one God, the Second in perfection, one in totality, while The Second part (i.e. two letters) $\overline{\text{nc}}$; can be read as follows: The new beginning of the God and the Son. So, it is obvious now that the repeated numbers have the same meaning and significance with the repeated ones in red ink. Moreover, by a careful look at the meaning of the sentences, we will notice that the scribe aimed to express his Orthodox faith, and thus he chooses to begin by the $\overline{\text{aw}}$ which was the traditional phrase since the fourth century in connection with the Christological debates that were settled at the Council of Nicaea when the Council sanctioned their use as an expression of the dogma that Christ is of like substance with the father.⁷

Finally, as for the date of the ostrakon, the paleographical point of view supposes that this ostrakon can be dated approximately between the seventh and the eighth centuries, especially from the shape of the Coptic letters α , β , ϵ , and \omicron .⁸

General Conclusion

Both ostraca are of great importance for the history of the Coptic Script, as well as the Christian communities and their cultural aspects in Western Thebes in the Western Desert of Egypt, for they can shed light on the life of the Coptic monks in their solitude, in addition to the systems of scripts they preferred to use during the Christian period.

From these two ostraca besides the published ones in the field of the Coptic cryptography, one can advance some hypotheses: first of all, the First System of the Coptic Cryptography was frequently used among the Christians in the Christian time. Secondly, the Coptic exercises can hold significance behind the letters and the numbers, and this will be proved from further publications and excavations. Finally, Egyptian monks in that part of the Desert, i.e. the Western Desert of Thebes, were connected with a mutual system of learning in order to communicate with each other in their daily lives and their faith, and that they were concerned with teaching themselves and the neighborhoods around them the Coptic language with its forms, as well as the Christian religion.

Notes

* Lecturer, Faculty of Archaeology, Cairo University.

** It is noteworthy to mention here that this ostrakon is one of my group of Coptic ostraca that I had obtained from the NMEC museum to be as the subject of my Ph.D. thesis which is entitled 'A Group of Coptic Ostraca from Thebes- Publishing and Analytical Study', Faculty of Archaeology, Cairo University.

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- 5 J. Doresse, *CE* 8, 65 f.
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