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コプト語から 古代エジプト語の姿を考える

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Introduction

Main provenances of Coptic medical texts Corpus



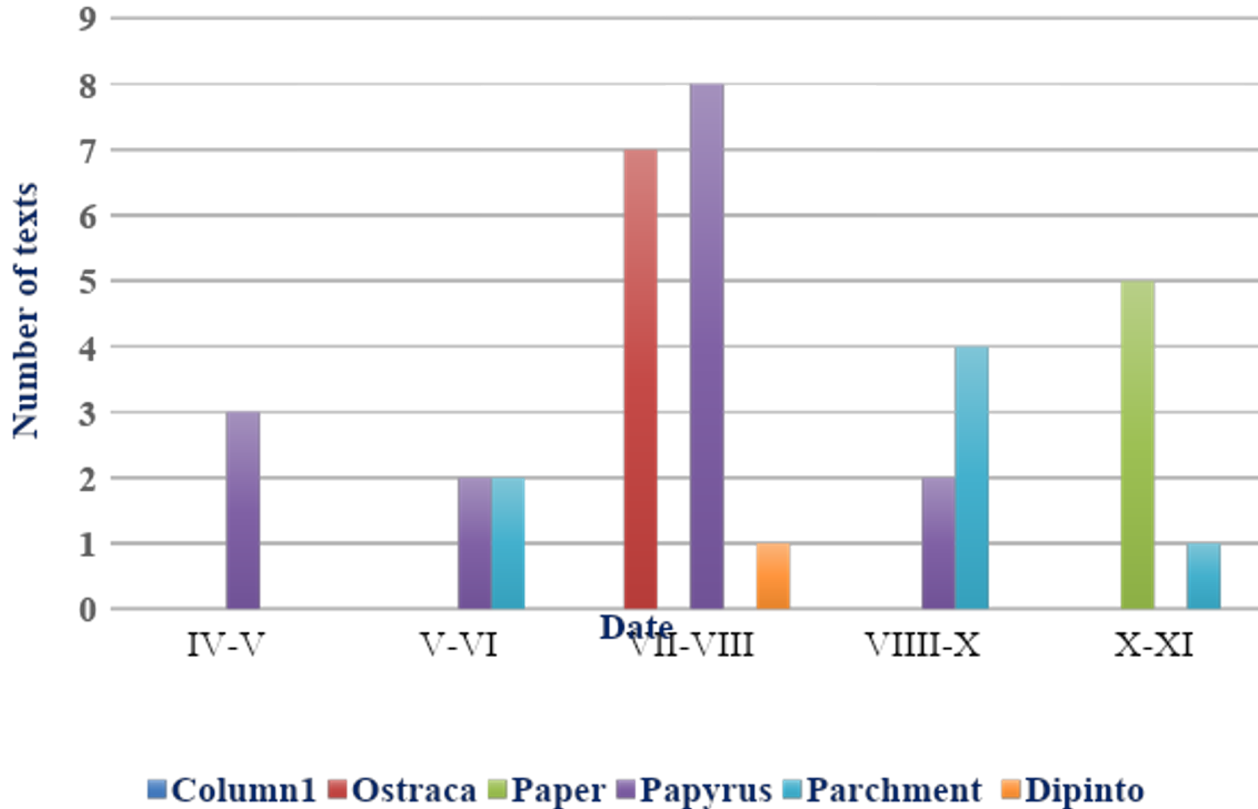
Map of Egypt, based on ©Google maps

Provenance	Number of texts
Thebes	8
Sohag	5
Asyut	2
Red Sea	1
Al-Faiyūm	4
Saqqara	2

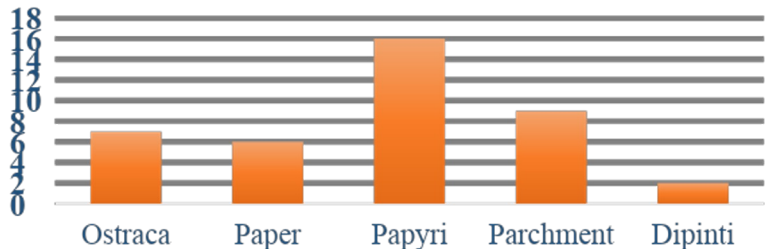
Coptic Medical Sources

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Medical Texts by Material and Century



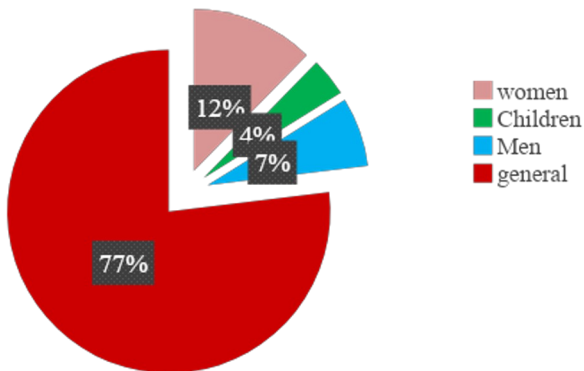
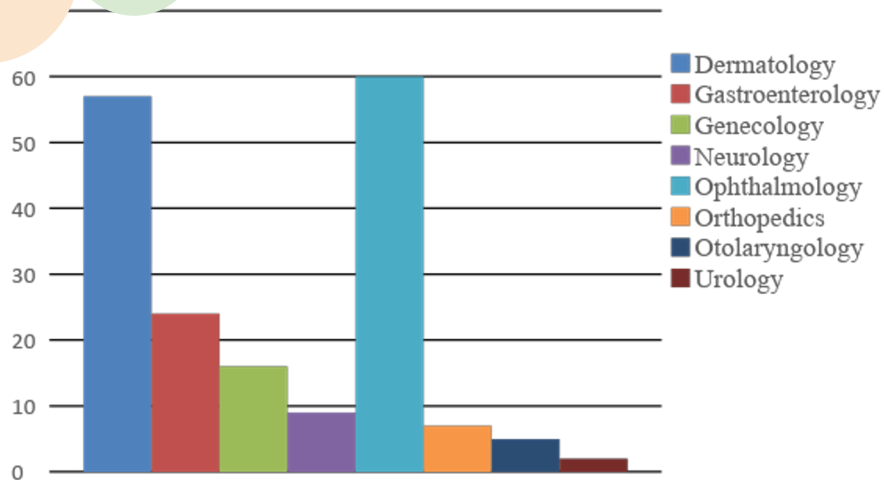
Monasteries Medical Texts



Provenance	Materials
Red Sea	Parchment
Saqqara	Dipinti, Parchment
Sohag	Parchment, Papyri
Thebes	Papyri, Ostraca
Assiut	Dipinti, Papyri
Al-Faiyūm	Paper, Papyri

Provenance	Monastery provenance	Number of Texts
Thebes	Monastery of Phoibammon Monastery of Epiphanius Deir el-Bachit Monastery Monastery of saint Elias	6
Sohag	The White Monastery	3
Wadi Sarga	The Monastery of Apa Thomas	1
Saqqara	The monastery of Apa Jeremias	2
Red Sea	The Monastery of St. Antony	1

Medical Specialties and Nosology



Specialties	Number of recipes
Neurology	9
Dermatology	57
Ophthalmology	60+
Gynaecology	16
Gastroenterology	24
Otolaryngology	5
Urology	2
Orthopedics	7



Medical Recipes Structure



• Introductory formula

- ετβε + organ + εφ/τ/γ †κκαϑ
- ετβε ξ̄νναααδε εγτιτκαϑ
- ετβε + Disease

• Corpus

Ingredients: Animal-plant-mineral sources

Instructions for preparation: Grind, boil, cook

• Conclusion

- χρω
- φ-να-λο
- φ-να-ογχαλ

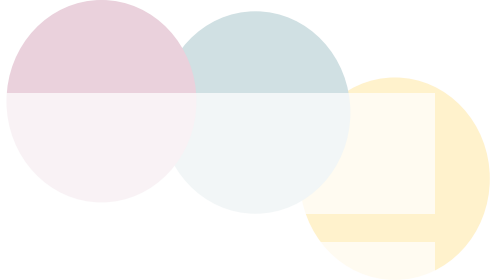
List of Coptic medical texts in this study (Sawy 2022)

BKU III 396: Papyrus, Berlin, Pap.-coll. inv.22164, 5.5 x 13 cm, 4th-5th cent.
P.TT157-470: Papyrus fragment, TT157, Fj. 470, 10.8 x 8.2 cm, 4th-5th cent. CE.
P.Mich. MS 136 p. 2-14: Parchment codex, Ann Arbor, Michigan MS 136, 4.125 x 4.875 cm, 5th-6th cent. CE.
P.Mich. 593b: Codex remains, University of Michigan, inv. 593b, 7 x 11 cm, 5th-6th cent. CE, unknown provenance.
P.Mich. 593a: Papyrus, Ann Arbor, University of Michigan, inv. 593a, 7.25 x 9 cm, 5th-6th cent.
P.Carlsberg 500: Parchment leaves, Copenhagen Egyptological Institute inv. 500, each page measures approximately 9-9.50 x 8-8.50 cm.
P.Sarga 20: Papyrus, London, BL?, 6.5 x 8.5 cm, 6th or 7th cent. CE.
P.Ryl.Copt. 109: Papyrus fragment, Manchester, John Rylands Library Copt. 109, 5 x 10 cm, 6th-7th cent. CE.
SBKopt. I 006: Papyrus, Vienna, ÖNB, Pap.-coll. inv. K 5595, 28 x 8.5 cm, 7th cent. CE, provenance is unknown.
P.Köln.Agypt. 12: Papyrus, Köln, Pap.-Coll. inv. 5948, 9 x 8.8 cm, 7th cent. CE. From Al-Faiyūm.
P.YCtBR inv. 3353: Papyrus fragment, New Haven, Beinecke Library P.YCtBR 3353, measures 6.7 x 13.8 cm, is dated to the 7th-8th cent.
SBKopt. I 003: Papyrus, Vienna, ÖNB, Pap.-Smlg. inv. K 5504, 17 x 7.5 cm, is dated to the 6th-7th cent. CE. The provenance is unknown.
BKU I 27: Ostrakon, Berlin Pap.-coll., inv. P4984, 5.5 x 10.5 cm, 7th-8th cent. CE. The provenance is Thebes.
BKU I 28: Ostrakon, Berlin, coll., inv. P 880, 6.5 x 5 cm, 7th-8th cent. CE. Bought in Thebes in 1859.
O.Crum 487: (figure 1), Ostrakon, London, EEF 151, 7.3 x 8.4 cm, 7th-8th cent. CE. Originating in Deir al-Bahari
O.Mon.Epiph. 574: Ostrakon, inv. no. 12.180.79, measurements unknown, 7th-8th cent. CE.
O.Mon.Epiph. 575: Ostrakon, Cairo formerly Eg. Mus., inv. no. 44674.130, measurements unknown, 7th-8th cent. CE., it was found at the Monastery of Epiphanius in West Thebes
O.Brit.Mus.Copt. I 49: Ostrakon, London, BM inv. 27422, 7th-8th cent. CE, 21.90 x 14.80 cm. It was found among the stacks of sherds at the Monastery of Epiphanius in West Thebes.
IFAO 13315: Ostrakon, Cairo, inv. no. 13315, dated to 7th-8th cent. CE. From the Monastery of Elias, West Thebes.
O.Brit.Mus.Copt. II 37: Ostrakon, London, BM inv. 50216, 10.50 x 13.50 cm, 7th-8th cent. CE.
IFAO 13315: Ostrakon, Cairo, inv. no. 13315, dated to 7th-8th cent. CE. From the Monastery of Elias, West Thebes.
O.Brit.Mus.Copt. II 37: Ostrakon, London, BM inv. 50216, 10.50 x 13.50 cm, 7th-8th cent. CE. Originating in Deir al-Bahari
SBKopt. II 1043: Papyrus, Berlin, Pap.-coll. inv. 3262, 9.5 x 8 cm, 7th-8th cent. CE. Originating in Al-Faiyūm,
BKU III 329A: Papyrus, Berlin Pap.-coll. inv. 22061, 19 x 16 cm, 7th-8th cent. CE. Its provenance is unknown,

BKU 393: Papyrus, Berlin Pap.-coll. inv. 22190, measures 14.5 x 16.5 cm, 7th-8th cent. CE. Its provenance is unknown
SBKopt. I 004: Paper, inv. nos. K5506, 16 x 12 cm, dated to 8th cent. CE., the provenance is unknown.
O Bachit 1170+1172: Ostraca, 11,8 x 9,3 cm, unknown date, discovered at Deir el-Bachit (Dra' Abu el-Naga).
Cod.Med.Copt., p. 214-215: Parchment leaf, Paris BN 132,5, fol. 1, 15 x 12 cm, 9th-10th cent. CE. It was discovered at the White Monastery (Deir el-Abiad),
CAT. NO. 137 (98:Ms4): Parchment leaf, 12.4 x 11.5 cm, 9th-10th cent. CE. Originating at the Monastery of St. Antony at the Red sea
P.Louvre AF 12530: Papyrus strips; Paris, Louvre AF 12530, 90 x 9 cm; 9th-10th cent. CE. Supposedly originating in Sohag.
Cod.Med.Copt., p. 241-244: Two parchment leaves, Napoli BN IB.14.06-07, 30.5 x 23 cm, 9th-10th cent. CE, from Akhmim.
Ch: Papyrus, Cairo, IFAO, a single roll of 248 x 27 cm, 9th-10th cent. CE. Discovered in Naga al-Meshaikh (45 km south of Sohag),
SBKopt. I 001: Thick double parchment leaves folded vertically. The single sheet measures 11.51-12 x 12 cm. Its provenance is unknown, and it was brought to Walter Till by Professor L. Th. Lefort. It dates back to the 10th cent. CE and is well preserved.
SBKopt. I 005: Paper, unknown measurements, 10th-11th cent. CE, unknown provenance.
SBKopt. I 002: Paper section, unknown measurements, 10th-11th cent. CE, unknown provenance.
P.Ryl.Copt.108 Ro: Parchment fragment, Manchester, John Rylands Library; 6.5 x 8.5 cm, 10th-11th cent. CE. Its provenance is the White Monastery (Deir el-Abiad),
P.Ryl.Copt. 107: Parchment fragment, Manchester John Rylands Library, 9 x 4½ cm. Its provenance is the White Monastery
BKU I 26: Paper, remains of a manuscript in a book, inv. no. P 8116/7, 28 x 29 cm; 14 x 18 cm. Its provenance is Al-Faiyūm and dates back to 11th cent. CE.
P.Ryl.Copt. 104: Paper, Manchester John Rylands Library, 19 x 14 cm, 11th cent. CE. Unknown provenance.
P.Ryl.Copt. 106: Paper, Manchester John Rylands, 25 x 17 cm, 11th cent. CE, unknown provenance.
BKU I 25: Parchment leaf, Berlin, Pap.-coll. inv. 8109, 18 x 11 cm, unknown date.
P.Sarga 21: A *dipinto* on the plastered wall of the Monastery of Apa Thomas where the infirmary of the monastery was located. Taking from Deir el-Gandala near Asyut, it dates back to between the 5th and 7th cent. CE.
L.Saqqara 103: A *dipinto* in black ink on the plastered wall of room 700 D of Monastery of Apa Jeremias Saqqara, which dates back to the 7th cent. CE.



Coptic dialects

- 
- Lower Egyptian (almost no vowel letter doubling)
 - Bohairic
 - Upper Egyptian (frequent vowel letter doubling)
 - Fayumic
 - Oxyrhynchite
 - Sahidic ⇒ The most documented dialect, and the koine of Coptic until about the 11th century
 - Lykopolitan
 - Akhmimic
 - Other minor dialects: V Dialect, H Dialect, Proto-Theban (P) Dialect, etc.
 - Old Coptic (from ca. Ptolemaic period), its grammar is Demotic, but written in a Greek script supplemented with some characters of Demotic



Coptic alphabet and vowel phonology

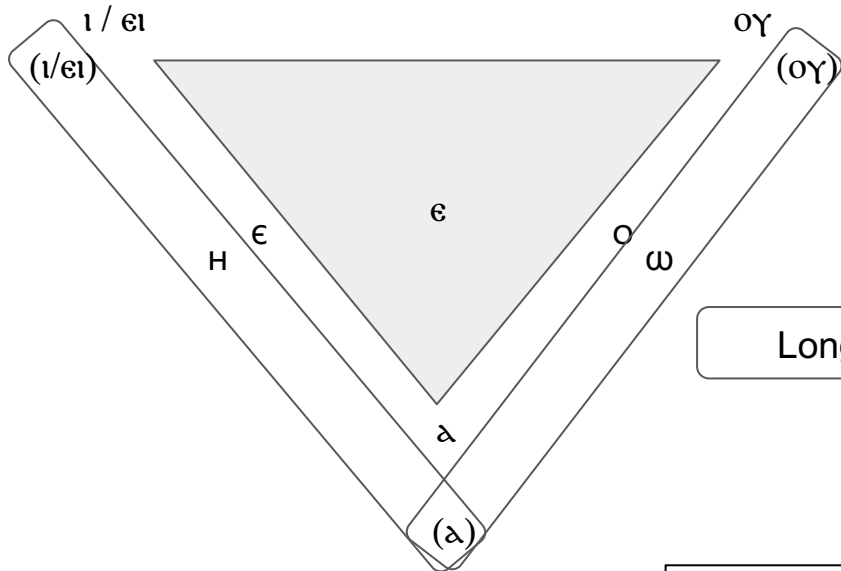


- The Coptic alphabet is a writing system consisting of Greek letters plus 6-8 other letters derived from the Demotic script
- Uncial script
- All the vowel letters are from Greek
 - In Greek, there's no systematic vowel letter doubling
- Vowel letters ι / ει, η, ε, α, ο, ω, and ογ can appear in a stressed syllable
- Vowel letters η, ω, and ο can appear only in a stressed syllable
- In an unstressed syllable, only ι/ει, ε, α, and ογ can appear
- In a stressed syllable vowel letter doubling αα, εε, οο, ωω, ογογ, and ειει can appear

Research question

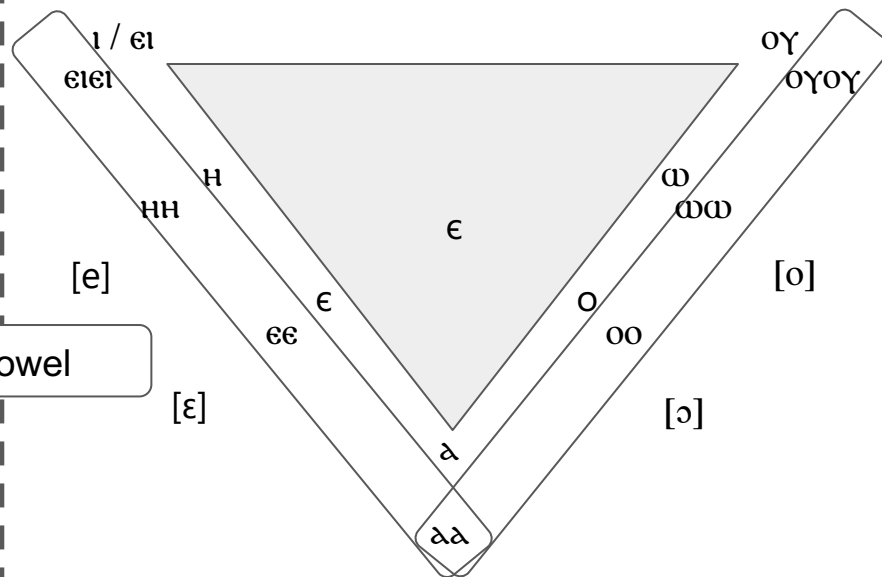
- Two theories on the phonetic value of vowel letters and Coptic phonology

Layton, Depuydt, Loprieno, Knudsen . . .



Vowel letter doubling: ωω = [o:ʔ]

Peust, Allen, Greenberg



but in Reintges (2004:25): Η = [ε], ε = [e], ω = [ɔ], ο = [o], εε = [eʔe]

Layton (2011), Depuydt (1993), Loprieno (1994), Knudsen (1961)... “ε/η quantity theory” or “λλ glottal stop theory”

- η is a long vowel against its short equivalent ε
- ω is a long vowel against its short equivalent ο
- η /e:/ vs. ε /e/, ω /o:/ vs. ο /o/
- Vowel letter doubling: the vowel + glottal stop
- μααγ /maʔw/ “mother”




Peust (1991), Allen (2020), Greenberg (1962)... “ε/η quality theory” / “λλ long vowel theory”

- η is a short vowel closer than ε
- ω is a short vowel closer than ο
- η /e/ vs. ε /ε/, ω /o/ vs. ο /ɔ/
- Vowel letter doubling: lengthening the vowel
- μααγ /ma:w/ “mother”

For the history of “quality” vs. “quantity” theories, see Peust (1991: 202–211)

Historical perspectives

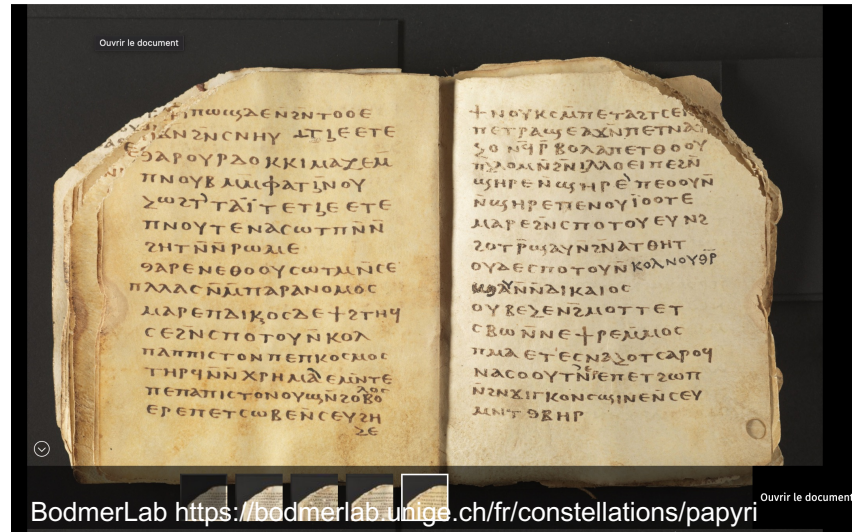
Vowel letter doubling corresponds to *ayin* (ʿ) or *aleph* (ʕ) many times in Pre-Coptic Egyptian

- Pre-Coptic Egyptian  $m^c b 3 \Rightarrow$ Sahidic Coptic $\mu\lambda\lambda\beta$ <maab> “30”
- Pre-Coptic Egyptian  $w^c b \Rightarrow$ Sahidic Coptic $\sigma\upsilon\eta\eta\beta$ <ouêêb> “priest”
- Pre-Demotic Egyptian  $\check{s}^c d \Rightarrow$ Demotic $\check{s}^c t \Rightarrow$ Sahidic Coptic $\omega\omega\omega\tau$ <šôôt> “cut” (Černý 1976:254)
- Hebrew שְׂעָר <šê‘êr> / Aramaic שְׂעָרָא <šê‘ārā’> \Rightarrow Demotic $\check{s}^c r \Rightarrow$ Coptic Sahidic $\omega\lambda\lambda\rho$ <šaar> “price” (Černý 1976: 250)

Proto-Theban (P) dialect

- Traces of ‘ayin and ’aleph are visible in Proto-Theban (P) dialect
- ʾ for a glottal stop and ʿ for voiced pharyngeal fricative
- These signs correspond to vowel letter doubling in Upper Egyptian dialects (Allen 2013:12)

- Paleo-Theban ϣⲟⲁⲡ ‘existent’
- Akhmimic ϣⲟⲟⲡ
- Fayumic ϣⲁⲁⲡ
- Lykopolitan ϣⲟⲟⲡ
- Sahidic ϣⲟⲟⲡ
- Bohairic ϣⲟⲡ
- Oxyrhynchite ϣⲁⲡ





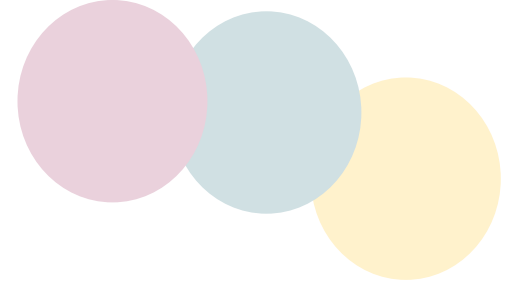
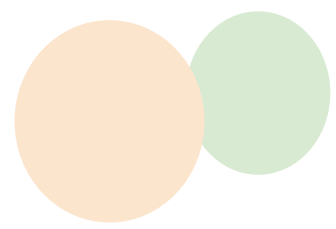
Complementary lengthening



- Probably “complementary lengthening” (CL) happened somewhere before Coptic in Egyptian history, glottal stop / voiced pharyngeal fricative disappeared and instead the vowel before it was lengthened
- Compensatory lengthening is attested in various languages
- CL in Ancient Greek after disappearance of nasal
 - ἄγ-ο-ντι /agonti/ → ἄγοντι /agontsi/ → Attic ἄγουσι /agu:si/ “they lead”
- CL in Indo-Iranian after disappearance of stop
 - Sanskrit : सप्त /sapta/ → Hindi सात /sāt/ 「7」
- CL in Maltese after disappearance of voiced pharyngeal fricative
 - jagħmel [ˈjaɟ.mɛl] → [ˈja:.mɛl] “he does”

Evidence from Old Nubian, which uses Coptic alphabet

- Old Nubian: language written in Medieval Nubian Kingdoms during 8th to 15th centuries
 - Nilo-Saharan > East Sudanic >>> Nubian > Nile Nubian
 - Written in the Coptic alphabet plus three Meroitic letters
 - Nobiin, the modern descendant of Old Nubian has distinction between long and short vowels
- It is plausible that vowel letter doubling signifies long vowels in Old Nubian
- Old Nubian τεελ- ⇒ Nobiin equivalent têt “tomb”
- Old Nubian ροορ- ⇒ Nobiin equivalent nôg “house”



Findings in Medical Corpus

Evidence for ω vs. o supports quality hypothesis

- P. Ryl. Copt. 106. αλζωμμε ← الحمى /alḥumma/ “fever”
- Ch 41 xωζελ ← كل /kuḥil/ [koḥel] “kohel”
- ω corresponds to Arabic short close vowel /u/ ⇒ ω is not long

Evidence for η vs. ε supports quality hypothesis

- P.Mich. MS 136, ll. 10–20 ανηικρησ ← النقرس /anniqris/
- η corresponds to Arabic short close vowel /i/ ⇒ η is not long

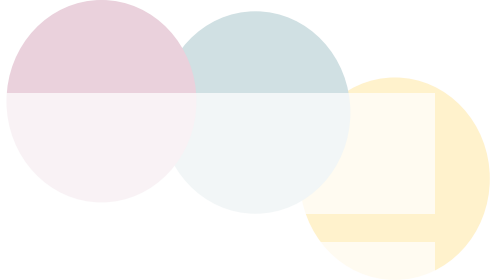
4 more attestations of this kind of examples in our corpus

Vowel letter doubling in medical corpus

- $\alpha\sigma\sigma\omega\omega\Delta$, “a remedy to be introduced into the nose” ← Arabic السعوط /assaḡu:ṭ/
(also see Chassinat 1921: 229, already mentioned by Greenburg 1963)
- We could not problem more strong evidence about vowel letter doubling
- Ch 219 $\omega\alpha\eta\bar{\rho}\omega\alpha\gamma \Delta\epsilon \text{ ON } \bar{\eta}\lambda\omega\tau\epsilon : \lambda\omega\tau\epsilon$ is probably a variant spelling of $\lambda\omega\omega\tau\epsilon$ “hard, callus of skin, be wounded” (Crum 1939: 145b)
- Plural of $\sigma\lambda\omega\tau$ “kidney” : Cod.Med.Copt., p. 243, recipe no. 28 $\eta\epsilon\sigma\lambda\omega\sigma\tau\epsilon$ “the kidneys”

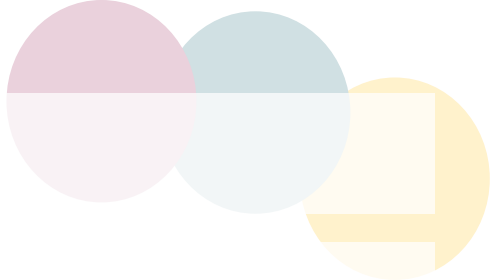


Conclusions

- 
- Greek and Arabic loan words in 43 Coptic medical texts were examined to investigate the problems of Coptic phonology: the distinction between η vs. ϵ and ω vs. \omicron , and vowel letter doubling
 - Old Nubian, Ancient Egyptian historical linguistics, and internal structuralist linguistic studies of Coptic indicate that the η vs. ϵ and ω vs. \omicron oppositions are not in length but in degree of mouth aperture and that the vowel letter doubling is more likely to be a long vowel
 - In this survey of the new medical literature, we were able to show evidence that the distinction between η vs. ϵ and ω vs. \omicron is not length but aperture, but not enough evidence to show that vowel letter duplication is a long vowel, at least around 8th century



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- 
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شكرا!

Thank you!
ϣεπξμοτ!

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