

Universal Multiple-Octet Coded Character Set
International Organization for Standardization
Organisation Internationale de Normalisation
Международная организация по стандартизации

Doc Type: Working Group Document**Title: Revision of the Coptic block under ballot for the BMP of the UCS****Source: Michael Everson and Stephen Emmel****Status: Individual Contribution****Action: For consideration by JTC1/SC2/WG2 and UTC****Date: 2004-04-20**

This document requests additional characters to be added to the UCS and contains the proposal summary form. It replaces contains characters accepted in N2636 along with additional characters and rationale for their inclusion.

A. Administrative**1. Title**

Revision of the Coptic under ballot for the BMP of the UCS.

2. Requester's name

Michael Everson and Stephen Emmel

3. Requester type (Member body/Liaison/Individual contribution)

Individual contribution.

4. Submission date

2004-04-20

5. Requester's reference (if applicable)

NN2611 (2003-08024), N2444 (2002-05-08), N2636

6. Choose one of the following:**6a. This is a complete proposal**

Yes.

6b. More information will be provided later

No.

B. Technical – General**1. Choose one of the following:****1a. This proposal is for a new script (set of characters)**

No, but it is a proposal for a new block of Coptic characters.

Proposed name of script

Coptic

1b. The proposal is for addition of character(s) to an existing block

No.

1b. Name of the existing block**2. Number of characters in proposal**

114

3. Proposed category (see section II, Character Categories)

Category A

4a. Proposed Level of Implementation (1, 2 or 3) (see clause 14, ISO/IEC 10646-1: 2000)

Level 1.

4b. Is a rationale provided for the choice?

Yes.

4c. If YES, reference

Spacing characters are proposed.

5a. Is a repertoire including character names provided?

Yes.

5b. If YES, are the names in accordance with the character naming guidelines in Annex L of ISO/IEC 10646-1: 2000?

Yes.

5c. Are the character shapes attached in a legible form suitable for review?

Yes.

6a. Who will provide the appropriate computerized font (ordered preference: True Type, or PostScript format) for publishing the standard?

Michael Everson. TrueType.

6b. If available now, identify source(s) for the font (include address, e-mail, ftp-site, etc.) and indicate the tools used:

Michael Everson, Fontographer.

7a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?

Yes, see bibliography below.

7b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?

Yes.

8. Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)?

Yes, see below.

9. Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at <http://www.unicode.org> for such information on other scripts. Also see Unicode Character Database <http://www.unicode.org/Public/UNIDATA/UnicodeCharacterDatabase.html> and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

Yes, see Unicode properties below.

C. Technical – Justification

1. Has this proposal for addition of character(s) been submitted before? If YES, explain.

Yes. N1658, N2444, N2636. This proposal is preliminary to ballot comments.

2a. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)?

Yes.

2b. If YES, with whom?

Stephen Emmel representing the International Association for Coptic Studies (IACS). This proposal has been aided in part by funds made available by the Society of Biblical Literature, and by the Script Encoding Initiative, University of California Berkeley.

2c. If YES, available relevant documents

This document

3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included?

Scholarly, ecclesiastical, and library communities.

4a. The context of use for the proposed characters (type of use; common or rare)

Characters are used to write the Coptic language.

4b. Reference

See below.

5a. Are the proposed characters in current use by the user community?

Yes.

5b. If YES, where?

By scholars, ecclesiastical researchers, Coptic Christians, and librarians.

6a. After giving due considerations to the principles in Principles and Procedures document (a WG 2 standing document) must the proposed characters be entirely in the BMP?

Yes.

6b. If YES, is a rationale provided?

Yes.

6c. If YES, reference

Accordance with the Roadmap. Other Coptic characters are encoded in the Greek and Coptic block.

7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?

Yes, they should be encoded in a single block as presented here.

8a. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?

Yes.

8b. If YES, is a rationale for its inclusion provided?

Yes.

8c. If YES, reference

Coptic characters are similar to, but not identical to, Greek characters, and Copticists need to distinguish the two in plain text.

9a. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?

No.

9b. If YES, is a rationale for its inclusion provided?

9c. If YES, reference

10a. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character?

Yes. COPTIC SYMBOL TAU RO is similar to COPTIC LETTER SAMPI but the two are distinct characters with distinct origins and uses.

10b. If YES, is a rationale for its inclusion provided?

Yes. Greek and Coptic have been disunified.

10c. If YES, reference

The more generic U+2627 CHI RHO must be considered to be a logotype derived from two Greek letters; the KHI RO proposed here is derived from two Coptic letters, and is used in Coptic text.

11a. Does the proposal include use of combining characters and/or use of composite sequences (see clauses 4.12 and 4.14 in ISO/IEC 10646-1: 2000)?

Yes.

11b. If YES, is a rationale for such use provided?

Yes.

11c. If YES, reference

Combining diacritical marks.

12a. Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?

No.

12b. If YES, reference

13a. Does the proposal contain characters with any special properties such as control function or similar semantics?

No.

13b. If YES, describe in detail (include attachment if necessary)

14a. Does the proposal contain any Ideographic compatibility character(s)?

No.

14b. If YES, is the equivalent corresponding unified ideographic character(s) identified?

14c. If YES, reference

D. Proposal


N2636 noted that additional characters including, at least, alphabetical characters representing the Old Nubian sounds /dz/, /ŋ/, /ɲ/, /w/ were likely to be required for addition to the Coptic repertoire, which is currently out for ballot. Research has indicated that 46 additional letters and 8 other characters are required. We propose the complete replacement of the Coptic block (currently under ballot) with the block given below. We also propose the replacement of the glyphs at U+03E2-U+03EF with a set of glyphs in the same style as the other glyphs shown here.


Development of the Coptic script

The best-known Coptic dialects are Sahidic and Bohairic, whose characters were proposed in N2636. Coptic scholarship also recognizes a number of other dialects which use additional characters. The repertoires of Sahidic and Bohairic reflect efforts to standardize the writing of Coptic, but attempts to write the Egyptian language with the Greek script preceded that standardization by several centuries; during the initial period of writing, a number of different solutions to the problem of representing non-Greek sounds were made, mostly by borrowing letters from Demotic writing. These early efforts are grouped by Copticists under the general heading *Old Coptic*. (In the case of Old Nubian, which is a Nilo-Saharan language, some additional letters seem to have been borrowed from Meroitic.) While the *sounds* these letters represent can be written with the letters later employed in standard Sahidic and Bohairic Coptic, they are in fact *different* letters; modern Copticists rely on these letters to help identify different


Old Coptic dialects, particularly in the case of short inscriptions or ostraca which may be ambiguous as to the dialect used. These additional characters are described here.


Coptic is considered to be a casing script, chiefly because case has accrued to the script during the last several centuries of typographic development. Even in Old Coptic manuscripts, letters can be written larger (particularly at the beginning of paragraphs), though it is chiefly in the Bohairic manuscript and typographic tradition that the capital letters have the most distinctive shapes. In order to facilitate modern casing operations for the Coptic script, it has been judged appropriate to treat all of Coptic as a casing script, including the uniquely Old Coptic characters. In a scholarly publication, for instance, an article title at the top of a journal page might be set in all caps; it would be nonsensical for all but one or two of the Coptic letters to be able to be cased with an all caps command. Because Bohairic Coptic uses only a subset of the letters in the Coptic repertoire, a Sahidic font style – based on the designs of Dirk van Damme, who died a decade ago – has been used in this proposal for the code chart.


Ⲁ Ⲁ COPTIC LETTER DIALECT-P ALEF. This letter is found in the Coptic Dialect P and represents a sound /ʔ/ often replaced in other dialects by vocalic gemination (so Dialect P ⲀⲀ /oʔ/ is written ⲀⲀ in other dialects). It derives from Demotic letter ⲁ representing the Hieroglyphic FLOWERING REED  *i*. See figures 8 and 14.

Ⲃ Ⲃ COPTIC LETTER OLD COPTIC AIN. This letter is found in the Egyptian Oxyrhynchus Papyrus, where it represents a Middle Egyptian sound /ʕ/. It derives from Demotic letter ⲃ representing the Hieroglyphic group FOREARM and PAPYRUS ROLL  *ʕ*. See figures 1–3.

Ⲅ Ⲅ COPTIC LETTER CRYPTOGRAMMIC EIE and Ⲅ Ⲅ COPTIC LETTER CRYPTOGRAMMIC NI. A common Coptic substitution alphabet that was used to encrypt texts had the disadvantageous feature whereby three of the letters (EIE, NI, and FI) were substituted by themselves. Since the first two of these are two of the highest-frequency characters in Coptic, Copts felt that the encryption was not strong enough, and replaced those letters with these cryptogrammic ones. Copticists preserve this substitution in editions of these texts and do not consider them mere glyph variants of the original letters. An example: ⲡⲒⲈⲔⲐⲏⲏ *piebiên* ‘this wretch’ encrypted with the substitution system is rendered ⲠⲚⲄⲏⲚⲠⲏ *kfenʃbn*. Just as Ⲡ is not a glyph variant of ⲡ, so Ⲅ and Ⲅ are not glyph variants of Ⲓ and ⲏ. See figure 9.


Ⲇ Ⲇ COPTIC LETTER DIALECT-P KAPA. This letter is found in Dialect P (in that dialect, Ⲡ Ⲡ COPTIC LETTER KAPA is used to represent what in other dialects is written with Ⲙ Ⲙ COPTIC LETTER SHIMA); it derives from Demotic letter ⲇ representing the Hieroglyphic SANDY HILL-SLOPE  *k*. See figures 7, 8, and 14.

Ⲉ Ⲉ COPTIC LETTER DIALECT-P NI. This letter is found in Dialect P. It derives not from GREEK LETTER NU, but from Demotic letter ⲉ representing Hieroglyphic RIPPLE OF WATER  *n*. Dialect P also uses Ⲏ Ⲏ COPTIC LETTER NI for non-syllabic /n/. See figures 8 and 14.


Ⲋ Ⲋ COPTIC LETTER OLD COPTIC OOU. This letter is found in the Old Coptic Schmidt Papyrus and represents a sound /o/. It derives from Demotic letter ⲋ representing the Hieroglyphic BACKBONE AND RIBS  *t*. See figures 4–6.



Ⲍ Ⲍ COPTIC LETTER SAMPI. This letter has a numeric value of 900 and corresponds to GREEK LETTER SAMPI. It is not found in abecedaria, but is used in cryptogrammic contexts as a letter. See figure 9.


Ⲏ̅ Ⲏ̅ COPTIC LETTER CROSSED SHEI. This letter is found in Dialect I where it represents a sound /ç/; it is found alongside Ⲏ Ⲏ COPTIC LETTER SHEI which represents /ʃ/. The diacritic is not productive. See figures 13 and 14.

Ⲝ Ⲝ COPTIC LETTER OLD COPTIC SHEI. This letter derives from a Demotic letter **Ⲝ** representing Hieroglyphic POOL WITH LOTUS FLOWERS  *š* (as does **Ⲙ Ⲙ** COPTIC LETTER SHEI). It is found in the Old Coptic Horoscope, in the two Old Coptic Mummy labels in Berlin, and in the Demotic Magical Papyrus (where Coptic glosses a Demotic text); it represents /ʃ/. See figure 14.


/ / COPTIC LETTER OLD COPTIC ESH. This letter is found in the Old Coptic Schmidt Papyrus and represents a sound /ʃ/. Its origin is uncertain. For the name, the IPA name for ʃ has been used. See figures 4–6.



ⲑ ⲑ COPTIC LETTER DIALECT-P HORI. This letter is found in the Old Coptic Horoscope, where it represents a sound /h/; and in Dialect P, where it represents a sound /ç/. It derives from Demotic letter **ⲑ** representing Hieroglyphic group ELEPHANT TUSK and PAPYRUS ROLL  *h*. See figures 7, 8, and 14.


Ⲝ Ⲝ COPTIC LETTER OLD COPTIC HORI. This letter is found in the Mimaut Papyrus and the first non-Greek section of the Paris Magical Papyrus, where it represents a sound /h/; in the Old Coptic Schmidt Papyrus it represents /h/. Like DIALECT-P HORI, it derives from Demotic letter **ⲑ** representing Hieroglyphic group ELEPHANT TUSK and PAPYRUS ROLL  *h*, but unlike the letterform **ⲑ** which is the source of the letter DIALECT-P HORI, this letter derives from a different letterform . See figures 10, 12, and 14.


Ⲟ Ⲟ COPTIC LETTER OLD COPTIC HA. This letter is found in the Old Coptic Schmidt Papyrus and represents a sound /h/. It derives from Demotic letter **Ⲟ** representing the Hieroglyphic REED SHELTER  *h*. See figures 1–6 and 14.

Ⲛ Ⲛ COPTIC LETTER L-SHAPED HA. This letter is found in the second non-Greek section of the Paris Magical Papyrus and represents a sound /h/. It may derive from the Greek epigraphic rough breathing. See figures 11 and 14.

Ⲟ Ⲟ COPTIC LETTER OLD COPTIC HEI. This letter is used in a number of Coptic dialects to represent a sound /ç/; in the Mimaut Papyrus and the second non-Greek section of the Paris Magical Papyrus it represents /ʃ/. It derives from Demotic letter **Ⲟ** representing Hieroglyphic HUMAN PLACENTA  *h*. The name HEI for /ç/ is “softened” from the attested name KHEI used for **Ⲟ** ~ **Ⲟ** /x/. See figures 1–3, 10–12, and 14.

Ⲟ Ⲟ COPTIC LETTER OLD COPTIC HAT. This letter is found in the Old Coptic Munich Papyrus and represents a sound /h/. It derives from Demotic letter **Ⲟ** representing the Hieroglyphic WICK OF TWISTED FLAX  *h*. For the name, Egyptian  *hʿt* ‘wick’ has been used. See figures 1–3.

Ⲛ Ⲛ COPTIC LETTER OLD COPTIC GANGIA. This letter appears to derive from a Demotic letter **Ⲛ** representing Hieroglyphic FIRE-DRILL  *d* (as does later COPTIC LETTER GANGIA **Ⲟ Ⲟ**) and is found in a number of Coptic dialects, where it represents /tʃ/. See figures 1–6, 10, and 14.

Ⲛ Ⲛ COPTIC LETTER OLD COPTIC DJA. This letter is found in the Mimaut Papyrus and represents a sound /tʃ/. This letter appears to derive from a Demotic group of letters **Ⲛ** representing the Hieroglyphic group FIRE-DRILL and EGYPTIAN VULTURE  *dʃ*; this is the source used for the name of this character. See figures 12 and 14.

Ⲟ Ⲟ COPTIC LETTER OLD COPTIC SHIMA. This letter is found in the Old Coptic Schmidt Papyrus and represents a sound /c/. Its origin is uncertain. See figures 4–6.

Ⲟ Ⲟ COPTIC LETTER OLD NUBIAN SHIMA. This letter is found in Old Nubian, where it represents a sound /dz/. It has an appearance consistently distinct from that of COPTIC LETTER SHIMA **Ⲟ Ⲟ**. See figures 15–18 and 20.

Ϯ Ϯ COPTIC LETTER OLD NUBIAN NGI. This letter is found in Old Nubian, where it represents a sound /ŋ/. It may derive from a vertical ligature of two Coptic letters *gamma*. See figures 15–18, and 20.

ϯ ϯ COPTIC LETTER OLD NUBIAN NYI. This letter is found in Old Nubian, where it represents a sound /ɲ/. It appears to derive from a Meroitic letter ϯ *ny*. See figures 15–18 and 20.

ϰ ϰ COPTIC LETTER OLD NUBIAN WAU. This letter is found in Old Nubian, where it represents a sound /w/. It appears to derive from a Meroitic letter ϰ *w*. See figures 15–16, 17, and 20.

Additional symbols

ϫ ϫ COPTIC SYMBOL KAI. This symbol is used as a standard abbreviation for ϫαι *kai* but also in native Coptic words: Dialect P ϫϫ is equivalent to Sahidic ϫϫϫϫ ‘namely’. See figure 7.

ϫϫ ϫϫ COPTIC SYMBOL MI RO. This symbol is used in dates to indicate the Diocletian Era and is derived from the Greek χρόνος μαρτύρων ‘time of martyrs’.

ϫϫ ϫϫ COPTIC SYMBOL PI RO. This symbol is used as a standard abbreviation for ϫϫϫ *pros* ‘to’.

ϫϫ ϫϫ COPTIC SYMBOL STAUROS. This symbol represents the word ϫϫϫϫϫ ‘cross’ in Bohairic texts.

ϫ ϫ COPTIC SYMBOL TAU RO. This symbol is used as a standard abbreviation for ϫϫϫ *taur* in ϫϫϫϫ = ϫϫϫϫϫ ‘cross’.

ϫ ϫ COPTIC SYMBOL KHI RO. This symbol is used in dates to indicate the Diocletian Era and is derived from the Greek χρόνος μαρτύρων ‘time of martyrs’.

ϫ ϫ COPTIC SYMBOL SHIMA SIMA. This symbol is used as a standard abbreviation for ϫϫϫ *côis* ‘lord’.

Combining diacritical marks

A number of generic characters are used in Coptic.

U+0300 ò COMBINING GRAVE ACCENT is used in some dialects (especially Bohairic) to indicate syllabic consonants (and sometimes a vowel that by itself forms a syllable). This is either a consonant pronounced with a reduced vowel or in a purely syllabic fashion: so ñ is pronounced [ɲ] or [ɛɲ].

U+0301 ó COMBINING ACUTE ACCENT can be used to indicate stress, occasionally in antiquity, but also in modern editions.

U+0304 ô COMBINING MACRON is used in many dialects (including Sahidic) texts to indicate syllabic consonants: so ñ̄ is pronounced [ɲ̄] or [ɛ̄ɲ].

U+0305 õ COMBINING OVERLINE is used over two or more characters to indicate abbreviation (more specifically, contraction): ñ̄̄̄ for ϫϫϫϫ ‘spirit’.

U+0307 ô COMBINING DOT ABOVE is used in Bohairic texts to indicate syllabic consonants (and sometimes a vowel that by itself forms a syllable). In Bohairic this mark is called *jinkim* (as is the COMBINING GRAVE ACCENT sometimes).

U+ 0308 ö COMBINING DIAERESIS can be used over ɿ and ʁ; it is used in at least one dialect to indicate syllabic consonants.

U+0311 ô COMBINING INVERTED BREVE is used on vowels which form independent syllables.

U+0323 ɔ COMBINING DOT BELOW is used by scholars to indicate doubtful or restored readings.

U+0361 ɔ̂ COMBINING DOUBLE INVERTED BREVE is used over pairs of letters which form independent syllables.

2C9B;COPTIC SMALL LETTER KAPA;Ll;0;L; ; ; ;N; ; ;2C9A; ;2C9A
 2C9C;COPTIC CAPITAL LETTER DIALECT-P KAPA;Lu;0;L; ; ; ;N; ; ;2C9D;
 2C9D;COPTIC SMALL LETTER DIALECT-P KAPA;Ll;0;L; ; ; ;N; ; ;2C9C; ;2C9C
 2C9E;COPTIC CAPITAL LETTER LAULA;Lu;0;L; ; ; ;N; ; ;2C9F;
 2C9F;COPTIC SMALL LETTER LAULA;Ll;0;L; ; ; ;N; ; ;2C9E; ;2C9E
 2CA0;COPTIC CAPITAL LETTER MI;Lu;0;L; ; ; ;N; ; ;2CA1;
 2CA1;COPTIC SMALL LETTER MI;Ll;0;L; ; ; ;N; ; ;2CA0; ;2CA0
 2CA2;COPTIC CAPITAL LETTER NI;Lu;0;L; ; ; ;N; ; ;2CA3;
 2CA3;COPTIC SMALL LETTER NI;Ll;0;L; ; ; ;N; ; ;2CA2; ;2CA2
 2CA4;COPTIC CAPITAL LETTER DIALECT-P NI;Lu;0;L; ; ; ;N; ; ;2CA5;
 2CA5;COPTIC SMALL LETTER DIALECT-P NI;Ll;0;L; ; ; ;N; ; ;2CA4; ;2CA4
 2CA6;COPTIC CAPITAL LETTER CRYPTOGRAMMIC NI;Lu;0;L; ; ; ;N; ; ;2CA7;
 2CA7;COPTIC SMALL LETTER CRYPTOGRAMMIC NI;Ll;0;L; ; ; ;N; ; ;2CA6; ;2CA6
 2CA8;COPTIC CAPITAL LETTER KSI;Lu;0;L; ; ; ;N; ; ;2CA9;
 2CA9;COPTIC SMALL LETTER KSI;Ll;0;L; ; ; ;N; ; ;2CA8; ;2CA8
 2CAA;COPTIC CAPITAL LETTER O;Lu;0;L; ; ; ;N; ; ;2CAB;
 2CAB;COPTIC SMALL LETTER O;Ll;0;L; ; ; ;N; ; ;2CAA; ;2CAA
 2CAC;COPTIC CAPITAL LETTER PI;Lu;0;L; ; ; ;N; ; ;2CAD;
 2CAD;COPTIC SMALL LETTER PI;Ll;0;L; ; ; ;N; ; ;2CAC; ;2CAC
 2CAE;COPTIC CAPITAL LETTER RO;Lu;0;L; ; ; ;N; ; ;2CAF;
 2CAF;COPTIC SMALL LETTER RO;Ll;0;L; ; ; ;N; ; ;2CAE; ;2CAE
 2CB0;COPTIC CAPITAL LETTER SIMA;Lu;0;L; ; ; ;N; ; ;2CB1;
 2CB1;COPTIC SMALL LETTER SIMA;Ll;0;L; ; ; ;N; ; ;2CB0; ;2CB0
 2CB2;COPTIC CAPITAL LETTER TAU;Lu;0;L; ; ; ;N; ; ;2CB3;
 2CB3;COPTIC SMALL LETTER TAU;Ll;0;L; ; ; ;N; ; ;2CB2; ;2CB2
 2CB4;COPTIC CAPITAL LETTER UA;Lu;0;L; ; ; ;N; ; ;2CB5;
 2CB5;COPTIC SMALL LETTER UA;Ll;0;L; ; ; ;N; ; ;2CB4; ;2CB4
 2CB6;COPTIC CAPITAL LETTER FI;Lu;0;L; ; ; ;N; ; ;2CB7;
 2CB7;COPTIC SMALL LETTER FI;Ll;0;L; ; ; ;N; ; ;2CB6; ;2CB6
 2CB8;COPTIC CAPITAL LETTER KHI;Lu;0;L; ; ; ;N; ; ;2CB9;
 2CB9;COPTIC SMALL LETTER KHI;Ll;0;L; ; ; ;N; ; ;2CB8; ;2CB8
 2CBA;COPTIC CAPITAL LETTER PSI;Lu;0;L; ; ; ;N; ; ;2CBB;
 2CBB;COPTIC SMALL LETTER PSI;Ll;0;L; ; ; ;N; ; ;2CBA; ;2CBA
 2CBC;COPTIC CAPITAL LETTER OOU;Lu;0;L; ; ; ;N; ; ;2CBD;
 2CBD;COPTIC SMALL LETTER OOU;Ll;0;L; ; ; ;N; ; ;2CBC; ;2CBC
 2CBE;COPTIC CAPITAL LETTER OLD COPTIC OOU;Lu;0;L; ; ; ;N; ; ;2CBF;
 2CBF;COPTIC SMALL LETTER OLD COPTIC OOU;Ll;0;L; ; ; ;N; ; ;2CBE; ;2CBE
 2CC0;COPTIC CAPITAL LETTER SAMPI;Lu;0;L; ; ; ;N; ; ;2CC1;
 2CC1;COPTIC SMALL LETTER SAMPI;Ll;0;L; ; ; ;N; ; ;2CC0; ;2CC0
 2CC2;COPTIC CAPITAL LETTER CROSSED SHEI;Lu;0;L; ; ; ;N; ; ;2CC3;
 2CC3;COPTIC SMALL LETTER CROSSED SHEI;Ll;0;L; ; ; ;N; ; ;2CC2; ;2CC2
 2CC4;COPTIC CAPITAL LETTER OLD COPTIC SHEI;Lu;0;L; ; ; ;N; ; ;2CC5;
 2CC5;COPTIC SMALL LETTER OLD COPTIC SHEI;Ll;0;L; ; ; ;N; ; ;2CC4; ;2CC4
 2CC6;COPTIC CAPITAL LETTER OLD COPTIC ESH;Lu;0;L; ; ; ;N; ; ;2CC7;
 2CC7;COPTIC SMALL LETTER OLD COPTIC ESH;Ll;0;L; ; ; ;N; ; ;2CC6; ;2CC6
 2CC8;COPTIC CAPITAL LETTER AKHMIMIC KHEI;Lu;0;L; ; ; ;N; ; ;2CC9;
 2CC9;COPTIC SMALL LETTER AKHMIMIC KHEI;Ll;0;L; ; ; ;N; ; ;2CC8; ;2CC8
 2CCA;COPTIC CAPITAL LETTER DIALECT-P HORI;Lu;0;L; ; ; ;N; ; ;2CCB;
 2CCB;COPTIC SMALL LETTER DIALECT-P HORI;Ll;0;L; ; ; ;N; ; ;2CCA; ;2CCA
 2CCC;COPTIC CAPITAL LETTER OLD COPTIC HORI;Lu;0;L; ; ; ;N; ; ;2CCD;
 2CCD;COPTIC SMALL LETTER OLD COPTIC HORI;Ll;0;L; ; ; ;N; ; ;2CCC; ;2CCC
 2CCE;COPTIC CAPITAL LETTER OLD COPTIC HA;Lu;0;L; ; ; ;N; ; ;2CCF;
 2CCF;COPTIC SMALL LETTER OLD COPTIC HA;Ll;0;L; ; ; ;N; ; ;2CCE; ;2CCE
 2CD0;COPTIC CAPITAL LETTER L-SHAPED HA;Lu;0;L; ; ; ;N; ; ;2CD1;
 2CD1;COPTIC SMALL LETTER L-SHAPED HA;Ll;0;L; ; ; ;N; ; ;2CD0; ;2CD0
 2CD2;COPTIC CAPITAL LETTER OLD COPTIC HEI;Lu;0;L; ; ; ;N; ; ;2CD3;
 2CD3;COPTIC SMALL LETTER OLD COPTIC HEI;Ll;0;L; ; ; ;N; ; ;2CD2; ;2CD2
 2CD4;COPTIC CAPITAL LETTER OLD COPTIC HAT;Lu;0;L; ; ; ;N; ; ;2CD5;
 2CD5;COPTIC SMALL LETTER OLD COPTIC HAT;Ll;0;L; ; ; ;N; ; ;2CD4; ;2CD4
 2CD6;COPTIC CAPITAL LETTER OLD COPTIC GANGIA;Lu;0;L; ; ; ;N; ; ;2CD7;
 2CD7;COPTIC SMALL LETTER OLD COPTIC GANGIA;Ll;0;L; ; ; ;N; ; ;2CD6; ;2CD6
 2CD8;COPTIC CAPITAL LETTER OLD COPTIC DJA;Lu;0;L; ; ; ;N; ; ;2CD9;
 2CD9;COPTIC SMALL LETTER OLD COPTIC DJA;Ll;0;L; ; ; ;N; ; ;2CD8; ;2CD8
 2CDA;COPTIC CAPITAL LETTER OLD COPTIC SHIMA;Lu;0;L; ; ; ;N; ; ;2CDB;
 2CDB;COPTIC SMALL LETTER OLD COPTIC SHIMA;Ll;0;L; ; ; ;N; ; ;2CDA; ;2CDA
 2CDC;COPTIC CAPITAL LETTER OLD NUBIAN SHIMA;Lu;0;L; ; ; ;N; ; ;2CDD;
 2CDD;COPTIC SMALL LETTER OLD NUBIAN SHIMA;Ll;0;L; ; ; ;N; ; ;2CDC; ;2CDC
 2CDE;COPTIC CAPITAL LETTER OLD NUBIAN NGI;Lu;0;L; ; ; ;N; ; ;2CDF;
 2CDF;COPTIC SMALL LETTER OLD NUBIAN NGI;Ll;0;L; ; ; ;N; ; ;2CDE; ;2CDE
 2CE0;COPTIC CAPITAL LETTER OLD NUBIAN NYI;Lu;0;L; ; ; ;N; ; ;2CE1;
 2CE1;COPTIC SMALL LETTER OLD NUBIAN NYI;Ll;0;L; ; ; ;N; ; ;2CE0; ;2CE0
 2CE2;COPTIC CAPITAL LETTER OLD NUBIAN WAU;Lu;0;L; ; ; ;N; ; ;2CE3;
 2CE3;COPTIC SMALL LETTER OLD NUBIAN WAU;Ll;0;L; ; ; ;N; ; ;2CE2; ;2CE2
 2CE4;COPTIC SYMBOL KAI;So;0;N; ; ; ;N; ; ; ;
 2CE5;COPTIC SYMBOL MI RO;So;0;N; ; ; ;N; ; ; ;
 2CE6;COPTIC SYMBOL PI RO;So;0;N; ; ; ;N; ; ; ;
 2CE7;COPTIC SYMBOL STAUROS;So;0;N; ; ; ;N; ; ; ;
 2CE8;COPTIC SYMBOL TAU RO;So;0;N; ; ; ;N; ; ; ;
 2CE9;COPTIC SYMBOL KHI RO;So;0;N; ; ; ;N; ; ; ;
 2CEA;COPTIC SYMBOL SHIMA SIMA;So;0;N; ; ; ;N; ; ; ;
 2CF9;COPTIC OLD NUBIAN FULL STOP;Po;0;L; ; ; ;N; ; ; ;
 2CFA;COPTIC OLD NUBIAN DIRECT QUESTION MARK;Po;0;L; ; ; ;N; ; ; ;
 2CFB;COPTIC OLD NUBIAN INDIRECT QUESTION MARK;Po;0;L; ; ; ;N; ; ; ;
 2CFC;COPTIC OLD NUBIAN VERSE DIVIDER;Po;0;L; ; ; ;N; ; ; ;
 2CFD;COPTIC FRACTION ONE HALF;No;0;ON; ; ; ;1/2;N; ; ; ;
 2CFE;COPTIC FULL STOP;Po;0;L; ; ; ;N; ; ; ;
 2CFF;COPTIC MORPHEME DIVIDER;Po;0;L; ; ; ;N; ; ; ;

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ω σρο χβ νουενδϋρ θεϋτ νουερ εντεμντ ηουτ ν ν[βε]ι[ε]μνϋ ν[ι]
 σατ ν-εϋτ[π]κοον ν[α]τορε τεττρο ν[μ]τετν[βε]ι[ε]μ[ε]γο ωτν[ι]
 μερδϋ ρηδϋ ν[ι]ε ωδδμονϋ θδϋτ μεμτ ορλ ετνοϋε< τετ ν<ηθδ<[ε].
 ν[ι]τη[ε]ι[ε] ντομ μοτ ρτετν ρηε ϣρετκεκι ν[ε]ϋτνπνετ ϣε[ε] ββ<οϋε< ρη[ε]
 5 νχβ ημδ< οϋβ<τ ννετ[α] [ν]δ<ηϋ ρτ[α] ενε[ι]ε ν[ι]μ[β]δ<ηϋ ν[ο]μ[ε]ι[ε]τνϋ ν[ι]
 Ⓞεϋτ ν[ε]ϋτνμοϋτϋ ορ ελε[ε]ι[ε]τν δ<ρϋ μ<νδ<ϣ + τετ ντβε< ν[ι]ντ[μ]
 δ<τν τετ ν[β]ρβϣ ερ<γο ν[ι]ε εβε<τ ωπ ολ ερτ[α] ηρδ<ετνϋβ< νρδ< ηηβ
 οβ ν[ι]νετ ε[ι]πν μοϋρ δ<κ ν[ι]π[β]ρβρ <δ<μρε< νβοη ννενϋο[τϣμ]τ[η]τϣ πηϋ η
 σβ[η]τε χβ ρτ[α] ε<δ<ϣ βδ<ε[ι]οϣ μϋητι πιρι μοϋ τε< ηρ η[ι]δ η
 10 επ ν[ι]ε ϣ ϣ ημ νημ ν[ι]τητ[α] Ⓞε[ι]πν ετηρϋ ημεϋτ ε[ε]π[β]ρ[ε]κ[ν]ι ϣβϋ
 νετϣεκνι ιτηϋ ϣ ημ νημ πη νημ λβη νημ ρ[ε]δ<ημεϋ νημ ρηηρ νημ
 ν[ι]τεϣενεϣ ερδ<ι ϣ νετεϣε<τ[η]ρ[ι]ντ ηρδ<ϣ ε[ι]πν ημοϋνοϋ ετν
 ηρηποτν ν[β]ερε<ωωϣετ δ<κεν σρϋοϋ ηδ<βοϋ [ε]ν[ε]ρ[ε] ν[ο]οϋο[ε]ι
 η<εβ[ρ]τ πρδ<ε νηϣο[ε]κ τ[η]ροκ τδ<ε ηρδ<ρ η[ι] τ[η]ροκ ε[ρ]δ<ϣ ϣδ<ϣ
 15 λοϣτ ν ε<τ ηβ[η]ε νηρδ<ϣ ιητ< νρδ<ρ ητ η<ετ[ε]ι πιρι μοϋ δ<ρδ<ρ[η]ε<ι
 ε<σ μοη τδ<ρλεοϋι ηηβ ημδ<ρ[η]ε< ν<εϣ[ρ]ο ϣδ<ρτ ετν βε[ε]τηε [ε]ρ[ε]!δ<
 Ⓞη<κτ ηρδ<ϣ ε[ι]πν ε[ι]ελε π[ο]ε[ν]ε<δ< ερδ< κδ<ι χβ νουενδϋρ.

Figure 2. Text of lines 1-15 of the Oxyrhynchus manuscript.



Figure 3. Facsimile of lines 1-15 of the Oxyrhynchus manuscript.

The fund of Greek signs is complemented by a set of signs of Demotic origin, which are shown in fig. 1.⁸

- 1. / for ξ
- 2. / for f: \leftarrow > Demotic \swarrow > Coptic ϣ
- 3. Ɑ for h: □ > Demotic Ɑ
- 4. Ɱ for h: ≡ > Demotic Ɱ > Coptic ϣ
- 5. Ɐ for t and d (when they are x, not τ, in Valley and Fayyūmic Coptic): ! Ɐ > Demotic | Ɐ > Coptic x
- 6. Ɒ for g (when it is ϸ, not κ, in Valley and Fayyūmic Coptic): maybe from Ɒ > Demotic ϣ, ϣ, ϣ
- 7. ⱱ for o (for which ω is also used): ⱱ (determinative of st 'back') > Demotic ⱱ
- 8. ϣ' for final r (?): ϣ with diacritic marks?
- 9. ϣ
- 10. ϣ

Figure 4. Table of Demotic-based letters from the Old Coptic Schmidt Papyrus (Satzinger 1975). The letters / OLD COPTIC ESH, ϣ OLD COPTIC HA, Ɒ OLD COPTIC GANGIA, ⱱ OLD COPTIC SHIMA, and ⱱ OLD COPTIC OOU are shown.

εϣρμπε τα κλλαοϣα τετςμμε <ε>
 ϣ#ρ πα τανεσνηοϣ αε πααοις
 οϣσιρε νζαϣρω τισμμε νακ
 5 ρι πα/σαπ νμ ϣ#ρ πα τανεσ-
 νηοϣ ννεραει ναϣ νμ νεραϣ
 ναϊ δε ϣναΓΓ αν εμμντι
 ⱱμ εμμντι να/τε ϣ/ηρε
 μντι / ερ Δοειμ ανεκ αδρην
 μν πετϣεσμμε <ε>α#ει <ε3>ραϣ ν-
 10 ϣ#ρ ε.μπατιρτερ' τισμμε
 ν/ακ .]οϊ οϣσιρε στι να# / Δϣ
 /ε.[. ⱱ]α/ε νεραϣ ναϊ μα οϣοϊ
 ενεκ[^{ω.7} ϣ#ρ] οϣσιρε ναβ#τ
 οϣσιρ[ε -----]
 15 ησε οϣ[. .] οϣποϣ[ⱱ]ⱱ[ⱱ]ⱱ[ⱱ]ⱱ[ⱱ]ⱱ[ⱱ]ⱱ[ⱱ]
 τμον[ε ν]ανοϣπ σι οϣσιρε πελοισ
 μνεν[. ⱱ]ρτερ' ναμοϣζρκηρ'
 ναζρ.[. ⱱ] ϣοϣ ρι πα/σαπ

Fig. 2. The Old Coptic Schmidt Papyrus

Figure 5. Text of the Old Coptic Schmidt Papyrus.

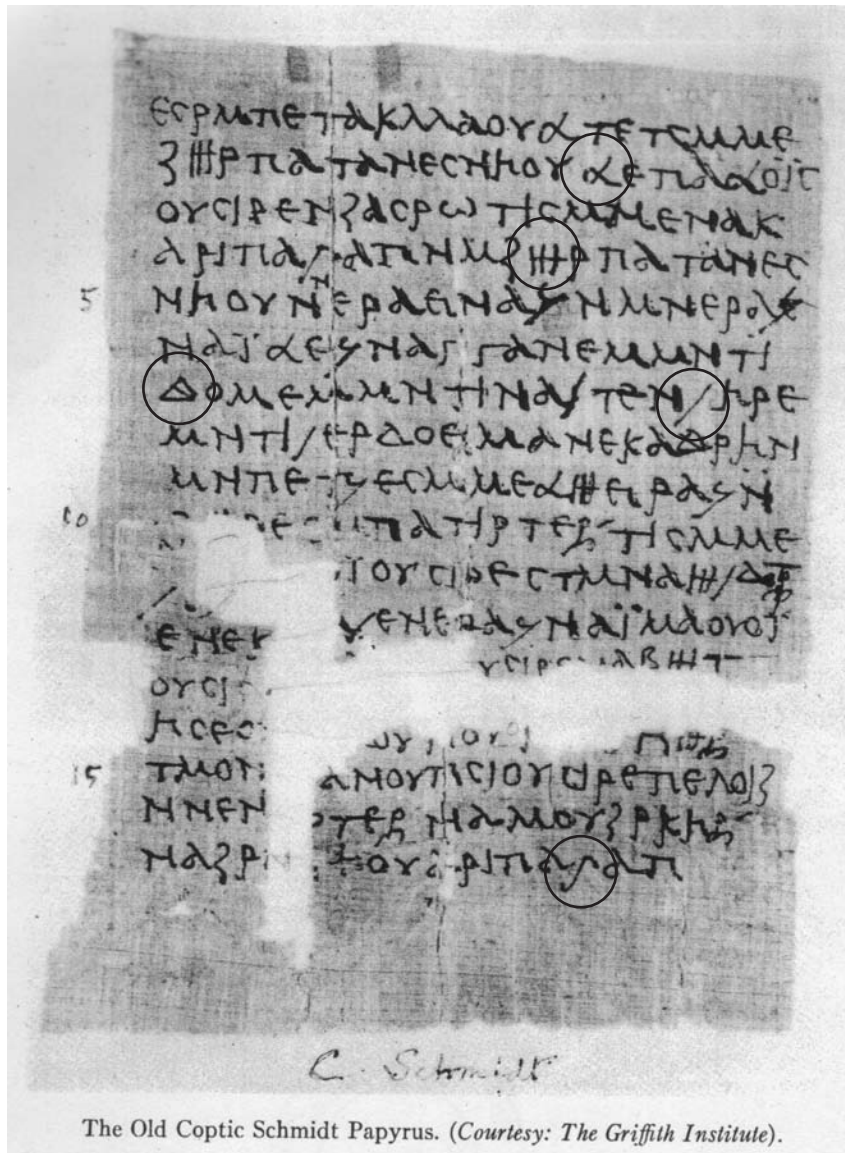
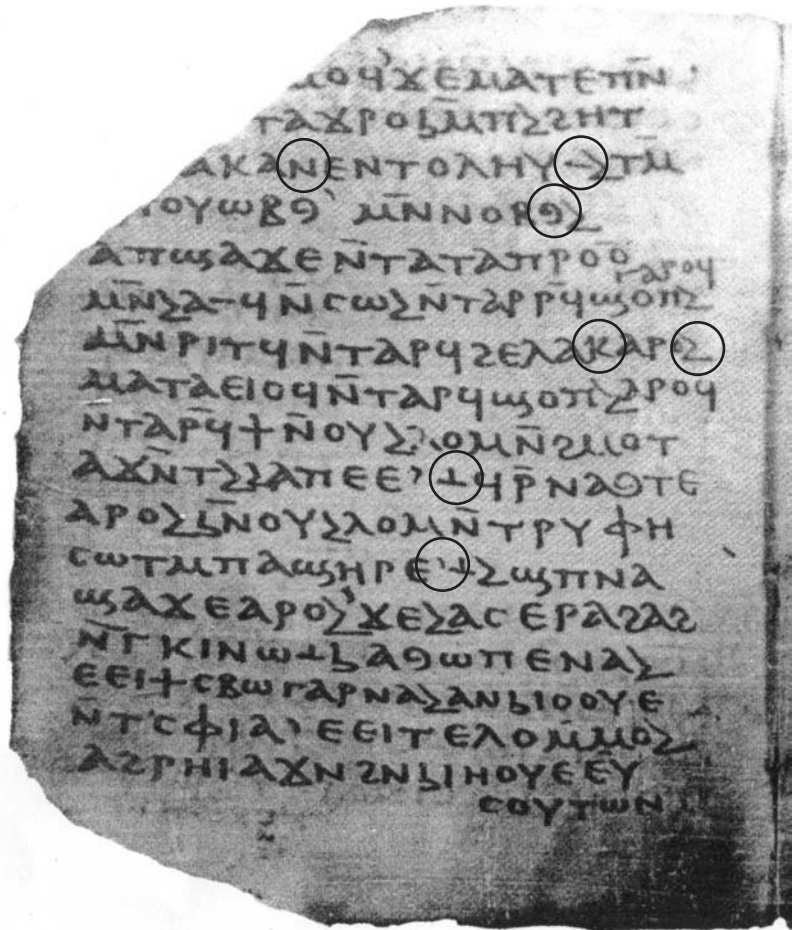


Figure 6. Facsimile of the Old Coptic Schmidt Papyrus.

- Ⓛ : s'écrit Ⓛ, ⓁⓁ, ⓁⓁⓁ; Ⓛ = Η dans les mots grecs Η, ΜΗ.
- Ⓢ : lettre démotique, remplace partout Ⓚ dans les mots coptes, sauf quelques Ⓚ restés au bout du calame du scribe ¹, peut-être sous l'influence de son modèle : ΠⓀⓀΛΗΡΟΣ; ΝⓀⓀΑΡΠΟΣ; ΛΟⓀⓀ (ΛΑⓀⓀ Α Α²); ⓀΜⓈ et ⓀΩΜⓈ (S); ΠⓀⓈΒΗΡ; ΧΩⓀ.
- Ⓚ : a sa valeur normale dans les mots grecs, où l'on trouve 86 fois le compendium des manuscrits grecs, Ⓚ (= ΚΑΙ), exceptionnel (cfr *infra*) dans les mots coptes. Dans les mots coptes, Ⓚ remplace le Ⓞ du copte classique. Le compendium Ⓚ correspond à SA ⓄⓈ; et ΝⓀ à A ΝⓄⓈ, S ΝⓄⓁ ².

Figure 7. From the table of letters from the Dialect-P manuscript Bodmer VI (Kasser 1960). The letters Ⓚ KAPA, Ⓢ DIALECT-P KAPA, Ⓣ DIALECT-P HORI, and Ⓟ SYMBOL KAI are shown.

- ⟨κ⟩
 [ΕΥΣΩ Μ] Μ, ΟΥ' ΧΕΜΑΤΕΠΝ
 [ΨΑΧΕ] ΤΑΧΡΟ ΞΜΠΖΖΗΤ
 5. [ΖΕΛ] ΑΚ ΑΝΘΝΤΟΛΗΥ - ΤΜ
 [Ρ] Π, ΟΥΩΒΘ' ΜΝΝΟΒΘ
 5 ΑΠΨΑΧΕ ΝΤΑΤΑΠΡΟΘ // ΑΡΟΥ
 6. ΜΝΣΑ-Υ ΝΩΣ ΝΤΑΡΡΨΟΠΣ
 ΜΝΡΙΤΥ ΝΤΑΡΥΖΕΛΑΚ ΑΡΟΣ
 8. ΜΑΤΑΕΙΟΥ ΝΤΑΡΨΟΠΣ ΑΡΟΥ
 9. ΝΤΑΡΨ+ ΝΟΥΣΛΟΜ ΝΣΜΟΤ
 10 ΑΧΝΤΣΣΑΠΕΕ -ΥΡΝΑΘΤΕ
 ΑΡΟΣ ΞΝΟΥΣΛΟΜ ΝΤΡΥΦΗ
 10. ΣΩΤΜ ΠΑΨΗΡΕ' -ΣΨΠΝΑ
 ΨΑΧΕ ΑΡΟΣ' ΧΕΣΑΣ ΕΡΑΣΑΣ
 ΝΓΚΙΝΩ-Σ ΑΘΩΠΕ ΝΑΣ
 11. ΕΕΙ+ΣΩ ΓΑΡ ΝΑΣ ΑΝΨΙΟΥΕ
 ΝΤΣΦΙΑ' ΕΕΙΤΕΛΟ ΜΜΟΣ
 ΑΣΡΗΙ ΑΧΝΖΝΨΙΗΟΥΕ ΕΥ
 ΣΟΥΤΩΝ




Page K (*infra*, p. 18). *Proverbs* IV, 5-6, 8-11

Figure 8. Text and facsimile of the Dialect-P manuscript Bodmer VI. The letters N NI, - DIALECT-P NI, 9 DIALECT-P HORI, K KAPA, Σ DIALECT-P KAPA, † DIALECT-P ALEF, and ` MORPHEME DIVIDER, are shown.

ΝΕΥ
 ΟΕΝ ΝΙΥ ΕΥΕΣΙΕ ΝΙΥ' ΓΕ ΑΝΚ ΤΟ | ΣΙ ΝΤΟ ΑΝΚ ΠΟΥΡ ΣΙ ΝΠΟΥΡ ΑΝΚ'
 ΑΝΟΥΠ ΕΦΒΙ | ΚΛΟΥ' ΝΩΟΥ ΝΠΗ ΕΦΤΙ ΝΜΟΥ ΕΘΕΝΠΕΡΟ | ΟΥΣΙΡΙ ΠΕΡΟ
 ΟΥΣΕΡΟΥΤΕΜΑΒΡΕ ΑΤΑΠΝΕΛΣΙ | ΝΠΤΟ ΤΗΡΩ **Ⲙ** ΚΕΝΕΛΣΙ ΝΦΗΤ ΝΝΙΥ' ΕΥΕ ||
 130 ΣΙΕ ΝΙΥ' ΓΕ ΕΪΕΜΙ ΝΕΤΕΠΠΕΣΗΤ ΘΡΟΙ ΘΝΙΥ | ΕΥΕΣΙΕ ΝΙΥ ΤΕΪ ΝΠΟΥΣ. |
 ου λέγοντος εάν κύελος πολὺς ἐν τῷ στόματι γένηται, νόει, ὅτι νοσεὶ καὶ βού-
 135 λεται σοι | λαλήσαι' ἐὰν χαμηλή πλειστάκις, βούλεται || πρὸς σε ἐλθεῖν. ἐὰν δὲ
 πταρῆς δις ἢ καὶ πρὸς, | ὀλοκληρεῖ καὶ ἀνέρχεται, ὄθεν ἐστίν· ἐὰν κεφαλαργήσης
 καὶ δακρύσης, νοσεὶ ἢ καὶ τελευτᾷ. | 'ΓΟΪ ΕΤΠΕ ΝΕΛΣΕ ΠΘΟΪ ΝΣΑΤΣΑΠΣΙ
 140 ΓΟΪ | ΕΠΝΟΥΝ ΝΕΛΣΙ ΝΘΩΟΥΘ' ΝΣΑΝΑΒΙΝ ΝΕΛΣΙ || ΝΦΗΤ ΝΠΙΚΟ' ΣΝΕΟΥ
 ΩΠΜΕΝΕΥΗΓΥ | ΝΕΛΣΙ ΝΦΗΤ ΝΟΥΣΙΡΙ ΝΣΑΗΣΙ' ΝΕΛΣΙ | ΝΠΗ ΝΣΑ ΠΟΥΟΪΝ'
ⲘΕΛΣΕ ΝΦΗΤ. | ΝΝΙΥ ΕΥΕΣΙΕ ΝΙΥ' ΝΣΑΝΙΥ' ΕΥΕΣΙΕ ΝΙΥ' | ταῦτα ὑπὲρ γυναικῶν.
 145 ὅταν δὲ κατὰ γυναικῶν, λέγε ἐναλλάξ τὰς θηλείας ἐγείρων | ἐπὶ τοὺς ἄρρενας· |
 ΓΕ ΕΘΟΪΠΕ ΕΣΣΟ' ΕΘΟΪΠΕ ΕΣΟΥΟΪΜ ΕΘΟΪΠΕ | ΕΣΝΚΩΩΤ' ΜΕΝ ΚΕΟΥΕ

Figure 11. Text of the second non-Greek section of the Paris Magical Papyrus (Preisendanz 1971).
 The letters 6 OLD COPTIC HEI and L L-SHAPED HA are shown.

650 ... ΝΑ. Ν. ... || ... ΥΙΤ' ... Α ... ΓΗΥ ... ὅτι ... | ... ΝΠΝΟΥΤΕ
 Ο ΕΑ ... ΤΟΥ. ΑΠΙΕ. ΠΙ. Ν. Ε. | ... ΠΕ[Ρ]ΙΝΤ ΝΗΥ ΠΕ ΠΑΡΑΝ
 ΝΥΗΤ ... ΑΝΣ. ΛΥΟΥΕΤ ... ΣΑΒΑΩ[Θ] ΑΔΩΝΑΙ ΑΔΩΝ ΒΑΡΒΑΡΙΟΥΤ | .
 655 ... ΝΓ Ν. . ΠΡΕΒΕΤΕΠΕΙΟΥ ΝΛΕ ΣΙ ΟΥΗΡ ΕΤΣΙΣΟΠ || ... ΝΙΑΘ'. ς. ΟΥΤ.
 ΕΤΠΩΘ ΕΤΕ ΠΕΥΣΟ ΝΤΥΗΤΕ ΝΙΣΟΥΣ | ... ΠΕ. Ν. ς ΝΛΟ ΣΙ ΟΥΗΡ
 ΕΤΣΙΣΤ. Π ΣΙΝΕ. ΤΕ Ν. . ΟΥΤΡ | ... Τ' ΕΤΕ ΠΕΥΣΟ ΝΤΥ ΗΤΕ Ν. . ΕΙΩ-
 ςΕΥΕ ΕΣΕΚΗΤΝΟΝ | ... ΟΥ . ΑΙ . . . ΟΥ ΣΝ ΟΥΕ ΙΛΕ ΑΝΚ ΟΥΑΙ' ΣΙ
 ΣΟΥ ... Η. ΝΟΝ | Δ ... ΝΕ ... ΙΛΕ ΑΝΚ' ΣΕΡΠΩΤ ΝΜΟΥΣΙΝΕΡΟ. ... ||
 660 ... ΝΣΕΣΠΩΤ ΟΥΟΝΣΚ. Ο ΩΘΙ. ΣΠΕΤ. **Ⲙ**Η'Ν. ... | ΙΛ[ΕΑΝ]Κ'. ΩΘΑ
 ΤΗΡΩ ΚΟΥ ΑΝΟΚ ΩΣ ΑΝΚ ΑΕΝΙΟΥ[Ω ΑΕΝΙΟΥΩ] Δ[Ε-] | [ΝΙΟΥΩ ΑΕΝΙ]ΟΥΩ
 [ΑΕΝΙ]ΟΥΩ ΑΕΝΙΟΥΩ ΛΕΟΙ[ΟΥ]Ω ΑΕΝΙΟΥ[Ω] ... ΗΥ ΝΤΥΗΤΟΚ ΕΤΕΠΝΗΓΙΟΥΤ
 ... ΕΡΙΛΥΕΝΤΙΑΟΝ. ... ΣΙΑ. | .. ΚΟΙ. ΝΤΑ. . ΝΕ. . ΣΗΤΚ' ΣΪΘΑΝΥΩ ΝΣΜΟ-
 665 ΤΝ. . Δ. . . . ΟΝ || ΒΕΘΑΝΤΚΚΕΠΝΣΟΝΤΕ ΝΣ[Ω]Ρ ΑΝΟΚ ΩΣ ΤΕΜ. . . . |
 ΕΠΙ Τ. . ΓΗΥ. ΝΟ ΝΙΥ' ΕΤΗ. . ΝΙΥ ΑΜΟΥ ΝΚΒΩ. . . . ΑΙ | ΔΣ ΠΕΤΚΟΥΑΘ
 ΚΟΥ **Ⲙ**Ε ΗΪ ΕΡΙΝΚ' ΗΪ ΠΕΠΕΚΡΑΝ ΑΝΚ. . . . ΜΟΥΛΛΑΘΙ | ΤΟΥΤ' ΤΟΥΤ ΠΕ ΠΑ-
 ΡΑΝ ΝΥΗΤ ΚΟΥ ὡς ἂν θέλεις μετὰ . . . ογη . . . τὸν λό(γον) ΔΝΓ ΚΑΤ' ΣΙ ΚΑΤ'
 670 ΕΥΕΣΙ ΚΑΤ' ΑΝ. . . . Ι || ΧΕΝ. . Τ. ΔΟΥΕ ΑΝΚ' ΠΕ ΠΝ. ς ΝΧΩΡΣ ΕΠΤΟ Ν. . ΝΚ' |
 ΜΦ. . . . ΑΝΚ' ΔΒΡΙΑΒΩΤ Π . . ΝΙΤ ΠΣΙΤ ὀ ΕΡΟΑΤ. . . | ΘΩ[ΟΥΤ Ο]Ν ΣΜΟΥΝ
 Τ

Figure 12. Text of the Mimaut Papyrus (Preisendanz 1971).
 The letters 3 OLD COPTIC HORI, 6 OLD COPTIC HEI, and 11 OLD COPTIC DJA are shown.
 Note that the last of these is shown in the font as ΙΛ, reflecting its Demotic origin as ΙΛ < ,
 but it is not IAUDA + OLD COPTIC HA.

I [Protolycopolitan³¹] = the dialect of the *Ascension of Isaiah* edited by P. Lacau,³² etc. πρωμε ετανζ λου πετψο(ο)π νεφ.
I7 [partially neutralized Protolycopolitan,³³ a dialect the existence of which is acknowledged by Funk, who, however, places it differently in relation to *I* and *L*, especially *L6*³⁴] = the dialect of *BKU I 164*, P.Mich. inv. 3535a,³⁵ and a fragment of Melito in the Chester Beatty Library.³⁶ πρωμε ετανζ λου πετψοοπ νεφ.

Figure 13. From Kasser 1990, showing $\overline{\Psi}$ CROSSED SHEI.

LA «GENÈVE 1986»

UNE NOUVELLE SÉRIE DE CARACTÈRES TYPOGRAPHIQUES COPTES, PROTOCOPTES ET VIEUX-COPTES CRÉÉE A GENÈVE

Rodolphe KASSER

A l'initiative de l'éditeur genevois Patrick Cramer, une nouvelle série de caractères typographiques coptes, protocoptes et vieux-coptes a été créée récemment (1986) à Genève, où elle est maintenant opérationnelle (atelier de photocomposition CPM). Ces caractères ont été choisis et dessinés premièrement par Rodolphe Kasser: afin d'assurer (autant que possible) l'unité graphique de l'ensemble, il s'est inspiré d'une seule «main» antique (IV^e siècle), prenant comme modèle des caractères coptes ceux du Papyrus Bodmer III (Fondation Martin Bodmer à Cologne/Genève); il leur a ajouté dix-sept signes protocoptes et vieux-coptes qu'il a sélectionnés (car il ne pouvait être question de retenir toutes leurs variantes); le style de ces derniers caractères a été adapté par lui au style des signes d'écriture du Papyrus Bodmer III. Enfin, le dessin de tous ces caractères a été affiné par l'artiste bâlois Fifo Stricker, qui leur a donné leur forme graphique définitive, sous le contrôle de Rodolphe Kasser, assisté par Enzo Lucchesi, directeur de la série des Cahiers d'Orientalisme (édités par Patrick Cramer). Voici la série complète des signes coptes et protocoptes, avec les plus usuels des signes vieux-coptes, chaque lettre étant suivie de sa valeur phonologique assurée ou probable:

Ⲁ	/ʀ/	ⲁ	/ɲ/	Ⲃ	/ç/
Ⲃ	/a/	ⲃ	/n/ ou /ɲ/	ⲃ	/ʃ/
Ⲅ	/b/ ou /β/ (ou /v/)	Ⲅ	/ks/	Ⲅ	/ʃ/ (ou /h/)
ⲅ	/g/	ⲅ	/o/	ⲅ	/ç/ (ou /ʃ/)
Ⲇ	/d/	Ⲇ	/p/	Ⲇ	/ç/ (ou /h/)
ⲇ	/e/ ou /ɛ/	ⲇ	/ɾ/	ⲇ	/h/
Ⲉ	chiffre «six»	Ⲉ	/s/ (CZ /ʃ/)	Ⲉ	/h/
ⲉ	/z/	ⲉ	/t/ (TZ /ç/)	ⲉ	/h/
Ⲋ	/ē/	Ⲋ	/y/ (ou /w/ après Ⲃ, Ⲅ, Ⲇ)	Ⲋ	/x/
ⲋ	/th/	ⲋ	/u/ ou /w/	ⲋ	/x/
Ⲍ	/i/ ou /j/	Ⲍ	/ph/ (ou /f/)	Ⲍ	/ç/
ⲍ	/k/ (ou /q/??)	ⲍ	/kh/ (ou /x/ ou /ç/)	ⲍ	/ç/
Ⲏ	/k/ (ou /c/)	Ⲏ	/ps/	Ⲏ	/ç/
ⲏ	/l/ ou /ʎ/	ⲏ	/ð/	ⲏ	/c/ ou /çh/
Ⲑ	/m/ ou /mp/	Ⲑ	/f/	Ⲑ	/ti/

Figure 14. Type specimen for a Coptic font including Old Coptic characters (Kasser 1988). The letters Ⲁ DIALECT-P ALEF, Ⲃ DIALECT-P KAPA, ⲁ DIALECT-P NI, $\overline{\Psi}$ CROSSED SHEI, ⲃ OLD COPTIC SHEI, Ⲅ OLD COPTIC HEI, Ⲇ DIALECT-P HORI, ⲇ OLD COPTIC HA, Ⲉ L-SHAPED HA, ⲉ OLD COPTIC HORI, Ⲋ OLD COPTIC GANGIA, and ⲋ OLD COPTIC DJA are shown.

σ, or δ, which probably has the value of dsch, or tsch, like the Coptic σ or α. See

ελλελωδοτρε Fol. 3 b, ll. 4 and 14.

πρασαρα Fol. 13 b, l. 3, &c.

ψ and ζ. The exact values of these letters are unknown. Both Reinisch¹ and Lepsius² give three *n* sounds in the Nubian alphabet (*n*, *ñ*, and *ñ*), and it is possible that these unknown letters may represent *ñ* and *ñ*, as has already been suggested³.

Ϛ (ζ?) This form occurs once (Fol. 16 b, l. 15).

Figure 15. From a description of MS Oriental 6805 (Budge 1909). The letters δ OLD NUBIAN SHIMA, Ϛ OLD NUBIAN NYI, ε OLD NUBIAN NGI, and ϛ OLD NUBIAN WAU are shown.

ΑΙΚΑ ΠΛΛΑ ΔΟΥΤ ΤΕΙ
 ΕΑΝΑ. ΟΥΡΟΥ ΚΕΣ ΕΣΑΛ ΠΕΕΛ
 ΠΥΛΛΟΝ ΤΑΥΚΑ ΜΨΨΑΝ
 ΝΟ. ΕΣΜΑΤΑΡΙ ΚΙ ΚΟΝΟΥΛΝ
 ΝΑΣΟ. ΑΛΕΣΝ ΟΥΕΛ ΠΡΟΣ
 ΚΟΥΚΑ ΚΕΣ ΕΣΑΛ ΚΕΝ ΔΟΥΚ
 ΚΙΚΑΝ ΜΝΟ ΕΚΕΛΤΑΡΟΥ
 ΑΨΝ ΝΟ ΔΙΩΝ ΞΕΡΟΥΣΑΝΤ
 ΜΠΑ ΤΑΝ ΤΑΣΟ ΚΑ ΠΑΕΙΝ
 ΝΑ. ΞΕΡΕΟΣΙΛΟ ΤΩ ΤΑΝ
 ΔΑΝ ΝΟΝ ΕΝΝΟ. ΑΨΤΟΙ
 ΟΥΕΡΟΥ. ΟΡΠΠΗ ΕΑΡ ΠΠΗ ΟΥΕ
 ΡΑΛΟ. ΕΙΝΑΒΒΑ ΤΛΛΑ
 ΟΡΩ ΕΤ ΤΑ ΚΡΑΣΙΝ. ϛ
 ϛΒΙΔΑΛΟ ΞΕΡΕΟΣΟΥ ΚΥΡΓΑ
 ΚΕΣ ΝΙΚΟΥΡΡΟ ΔΙΣΟΥ

Figure 16. Facsimile of folio 16b of MS Oriental 6805 (Budge 1909). The letters Ϛ OLD NUBIAN NYI, ε OLD NUBIAN NGI, δ OLD NUBIAN SHIMA, and ϛ OLD NUBIAN WAU are shown.

5. (Lect. 102.2–3)

Ⲕⲁⲫⲟⲥ-ⲁ cast out -os-adj.	ⲃⲓⲡ-ⲕⲉ-ⲣⲁ take a handful -hab.-pred.	ⲉⲓ-Ⲓⲟⲩ-ⲕⲟⲟⲩⲩⲛ man-pl.-by
ⲟⲩⲕⲕⲟⲩⲩⲧ-ⲧⲁⲕ-ⲕⲉ-ⲛ trod upon-Pass.-Hab.-Inf.	ⲉⲛⲕⲱ but	

‘[It is no longer to become anything], except to be cast out and trodden upon by men.’

9. (Browne 1982:4, Z.6–7)

ⲁⲛⲒⲉⲗⲟⲥ angel	Ⲓⲟⲗⲁ-ⲓⲛ god-gen.	ⲙⲁⲣⲧⲓⲣⲟⲥ-Ⲓⲟⲩ-ⲕⲁ martyr-pl.-obj.	ⲧⲉⲛ TEN	ⲙⲁⲧⲧ-ⲗⲁ their tribulation-from
ⲁⲗⲁ-ⲟⲥ-ⲓⲃ-ⲟⲗ save-os-pl.obj.-part.pret.I				

‘the angel of the Lord who saved the martyrs from their tribulation’

Figure 17. Old Nubian text in a rather unaesthetic font (Bechhaus-Gerst 2004).

The letters Ⲕ OLD NUBIAN NYI, Ⲕ OLD NUBIAN SHIMA, and ⲉ OLD NUBIAN NGI.

Ⲕ = corresponds alphabetically with Coptic ⲥ, as the Meinarti ostracon 1.1.1 shows; it was probably /j/, as cognates in N. suggest (e.g. Ⲕⲉⲙ = *jem*). In (Sahidic) Coptic, ⲥ is a palatalized half-voiced velar stop (as in Engl. *vacuum*: Worrell 1934.88), enough like /j/, a voiced palatal fricative, to account for phonetic confusion between the two.

Ⲓ = N. ⲓ (e.g. ⲁⲕ = N. *ak*); thought to derive from a similar sign in Meroitic, which it resembles in form but not in sound (the latter is /h/: Zavodovskij–Katsnel’son 1980.88), the letter may in fact be Ⲓ superimposed over Ⲓ; for the obvious phonetic overlap cf. ⲕⲁⲕⲕ-, ⲕⲁⲕⲕ-, and note IN I 10 A ii 12, where ⲕⲁⲔⲓⲛⲒⲓ = ⲕⲁⲔⲓⲛⲒⲓ: see 2.2.2. Cf. also 2.2.1.

ⲟ = N. ⲓ (e.g. ⲟⲩ = *oi*); assumed to derive from a similar sign in Meroitic, which also resembles it in sound: Zavodovskij–Katsnel’son 1980.88. See 2.2.1.

Ⲓ = N. ⲱ (e.g. ⲕⲁⲧⲁⲣⲧ = *kawarti* 3.3); usually replaced by ⲟⲩ (e.g. ⲟⲩⲉⲗ-, Ⲓⲉⲗ-); there is a sign in Meroitic similar in shape and sound: Zavodovskij–Katsnel’son 1980.88).

1.2 Punctuation (based on Browne 1986b)

1.2.1 Following Greek practice, O.N. scribes routinely employed a raised point to mark the end of sentence, clause and colon. (In L. the point is replaced by Ⲕ; the texts occasionally display a different system, in which a raised point separates off virtually every word: IN I 5; II 18, 25; III 30, 34 i; FE).

Figure 18. Discussion of Old Nubian letters and punctuation (Browne 2002), showing Ⲕ OLD NUBIAN SHIMA, ⲉ OLD NUBIAN NGI, Ⲕ OLD NUBIAN NYI, ⲟ OLD NUBIAN WAU and Ⲕ OLD NUBIAN FULL STOP.

1.2.2 In addition to the raised point (and Ⲕ in L.), O.N. scribes occasionally employ other marks of punctuation:

Ⲕ: marks the end of a section of text (e.g. K. 19.7); it may be followed by a horizontal stroke (e.g. IN II 16 iv 13), optionally repeated and alternating with a series of dots (e.g. St. 2.8). The stroke alone, without a preceding Ⲕ, may also occur as a section divider (e.g. St. 28.10) and may be repeated, alternating with a series of dots (e.g. IN I 7 ii 6). For the use of Ⲕ with numerals see 1.2.3.

ⲔⲔ: (optionally followed by a horizontal stroke or strokes) marks the end of a section of text in L. (e.g. 100.12), where Ⲕ sets off the words of a title (e.g. 100.13).

Ⲕ marks the end of a question (both direct and indirect) in M. 9.1, K. 26.12 and SC 18.2, 4-5, 21.20-21, 22.15-16; in M. 9.4 we read Ⲕ (corrected by the scribe from Ⲕ). In IN I 4 i 15, ii 15 and 25 we find Ⲕ at question end.

ⲔⲔ is a verse divider in IN I 2, 3; II 12, 13; Dong. 1, 2; Ben.; in gr. 2 verses are divided by Ⲕ.

Figure 19. Discussion of Old Nubian letters and punctuation (Browne 2002). The punctuation marks

ⲔⲔ OLD NUBIAN VERSE DIVIDER, Ⲕ OLD NUBIAN DIRECT QUESTION MARK, and Ⲕ OLD NUBIAN INDIRECT QUESTION MARK are shown.

TABLE XX - Row 2C: COPTIC

	2C8	2C9	2CA	2CB	2CC	2CD	2CE	2CF	03E
0	Ⲁ	Ⲃ	Ⲅ	Ⲇ	Ⲉ	Ⲋ	Ⲍ		
1	Ⲁ	Ⲃ	Ⲅ	Ⲇ	Ⲉ	Ⲋ	Ⲍ		
2	Ⲑ	Ⲓ	Ⲕ	Ⲗ	Ⲙ	Ⲛ	Ⲝ		Ⲟ
3	Ⲑ	Ⲓ	Ⲕ	Ⲗ	Ⲙ	Ⲛ	Ⲝ		Ⲟ
4	Ⲙ	Ⲛ	Ⲝ	Ⲟ	Ⲡ	Ⲣ	Ⲥ		Ⲧ
5	Ⲙ	Ⲛ	Ⲝ	Ⲟ	Ⲡ	Ⲣ	Ⲥ		Ⲧ
6	Ⲗ	Ⲙ	Ⲛ	Ⲝ	Ⲟ	Ⲡ	Ⲣ		Ⲥ
7	Ⲗ	Ⲙ	Ⲛ	Ⲝ	Ⲟ	Ⲡ	Ⲣ		Ⲥ
8	Ⲓ	Ⲕ	Ⲗ	Ⲙ	Ⲛ	Ⲝ	Ⲟ		Ⲡ
9	Ⲓ	Ⲕ	Ⲗ	Ⲙ	Ⲛ	Ⲝ	Ⲟ	Ⲡ	ⲡ
A	Ⲙ	Ⲛ	Ⲝ	Ⲟ	Ⲡ	Ⲣ	Ⲥ	Ⲧ	Ⲩ
B	Ⲙ	Ⲛ	Ⲝ	Ⲟ	Ⲡ	Ⲣ	Ⲥ	Ⲧ	Ⲩ
C	Ⲟ	Ⲡ	Ⲣ	Ⲥ	Ⲧ	Ⲩ	Ⲭ	Ⲯ	Ⲱ
D	Ⲟ	Ⲡ	Ⲣ	Ⲥ	Ⲧ	Ⲩ	Ⲭ	Ⲯ	Ⲱ
E	Ⲡ	Ⲣ	Ⲥ	Ⲧ	Ⲩ	Ⲭ	Ⲯ	Ⲱ	Ⲳ
F	Ⲡ	Ⲣ	Ⲥ	Ⲧ	Ⲩ	Ⲭ	Ⲯ	Ⲱ	Ⲳ

G = 00
P = 00

TABLE XX - Row 2C: COPTIC

hex	Name
80	COPTIC CAPITAL LETTER DIALECT-P ALEF
81	COPTIC SMALL LETTER DIALECT-P ALEF
82	COPTIC CAPITAL LETTER OLD COPTIC AIN
83	COPTIC SMALL LETTER OLD COPTIC AIN
84	COPTIC CAPITAL LETTER ALFA
85	COPTIC SMALL LETTER ALFA
86	COPTIC CAPITAL LETTER VIDA
87	COPTIC SMALL LETTER VIDA
88	COPTIC CAPITAL LETTER GAMMA
89	COPTIC SMALL LETTER GAMMA
8A	COPTIC CAPITAL LETTER DALDA
8B	COPTIC SMALL LETTER DALDA
8C	COPTIC CAPITAL LETTER EIE
8D	COPTIC SMALL LETTER EIE
8E	COPTIC CAPITAL LETTER CRYPTOGRAMMIC EIE
8F	COPTIC SMALL LETTER CRYPTOGRAMMIC EIE
90	COPTIC CAPITAL LETTER SOU
91	COPTIC SMALL LETTER SOU
92	COPTIC CAPITAL LETTER ZATA
93	COPTIC SMALL LETTER ZATA
94	COPTIC CAPITAL LETTER HATE
95	COPTIC SMALL LETTER HATE
96	COPTIC CAPITAL LETTER THETHE
97	COPTIC SMALL LETTER THETHE
98	COPTIC CAPITAL LETTER IAUDA
99	COPTIC SMALL LETTER IAUDA
9A	COPTIC CAPITAL LETTER KAPA
9B	COPTIC SMALL LETTER KAPA
9C	COPTIC CAPITAL LETTER DIALECT-P KAPA
9D	COPTIC SMALL LETTER DIALECT-P KAPA
9E	COPTIC CAPITAL LETTER LAULA
9F	COPTIC SMALL LETTER LAULA
A0	COPTIC CAPITAL LETTER MI
A1	COPTIC SMALL LETTER MI
A2	COPTIC CAPITAL LETTER NI
A3	COPTIC SMALL LETTER NI
A4	COPTIC CAPITAL LETTER DIALECT-P NI
A5	COPTIC SMALL LETTER DIALECT-P NI
A6	COPTIC CAPITAL LETTER CRYPTOGRAMMIC NI
A7	COPTIC SMALL LETTER CRYPTOGRAMMIC NI
A8	COPTIC CAPITAL LETTER KSI
A9	COPTIC SMALL LETTER KSI
AA	COPTIC CAPITAL LETTER O
AB	COPTIC SMALL LETTER O
AC	COPTIC CAPITAL LETTER PI
AD	COPTIC SMALL LETTER PI
AE	COPTIC CAPITAL LETTER RO
AF	COPTIC SMALL LETTER RO
B0	COPTIC CAPITAL LETTER SIMA
B1	COPTIC SMALL LETTER SIMA
B2	COPTIC CAPITAL LETTER TAU
B3	COPTIC SMALL LETTER TAU
B4	COPTIC CAPITAL LETTER UA
B5	COPTIC SMALL LETTER UA
B6	COPTIC CAPITAL LETTER FI
B7	COPTIC SMALL LETTER FI
B8	COPTIC CAPITAL LETTER KHI
B9	COPTIC SMALL LETTER KHI
BA	COPTIC CAPITAL LETTER PSI
BB	COPTIC SMALL LETTER PSI
BC	COPTIC CAPITAL LETTER OOU
BD	COPTIC SMALL LETTER OOU
BE	COPTIC CAPITAL LETTER OLD COPTIC OOU
BF	COPTIC SMALL LETTER OLD COPTIC OOU
C0	COPTIC CAPITAL LETTER SAMPI
C1	COPTIC SMALL LETTER SAMPI
C2	COPTIC CAPITAL LETTER CROSSED SHEI
C3	COPTIC SMALL LETTER CROSSED SHEI
C4	COPTIC CAPITAL LETTER OLD COPTIC SHEI
C5	COPTIC SMALL LETTER OLD COPTIC SHEI
C6	COPTIC CAPITAL LETTER OLD COPTIC ESH
C7	COPTIC SMALL LETTER OLD COPTIC ESH
C8	COPTIC CAPITAL LETTER AKHMIMIC KHEI
C9	COPTIC SMALL LETTER AKHMIMIC KHEI
CA	COPTIC CAPITAL LETTER DIALECT-P HORI
CB	COPTIC SMALL LETTER DIALECT-P HORI
CC	COPTIC CAPITAL LETTER OLD COPTIC HORI
CD	COPTIC SMALL LETTER OLD COPTIC HORI
CE	COPTIC CAPITAL LETTER OLD COPTIC HA
CF	COPTIC SMALL LETTER OLD COPTIC HA

hex	Name
D0	COPTIC CAPITAL LETTER L-SHAPED HA
D1	COPTIC SMALL LETTER L-SHAPED HA
D2	COPTIC CAPITAL LETTER OLD COPTIC HEI
D3	COPTIC SMALL LETTER OLD COPTIC HEI
D4	COPTIC CAPITAL LETTER OLD COPTIC HAT
D5	COPTIC SMALL LETTER OLD COPTIC HAT
D6	COPTIC CAPITAL LETTER OLD COPTIC GANGIA
D7	COPTIC SMALL LETTER OLD COPTIC GANGIA
D8	COPTIC CAPITAL LETTER OLD COPTIC DJA
D9	COPTIC SMALL LETTER OLD COPTIC DJA
DA	COPTIC CAPITAL LETTER OLD COPTIC SHIMA
DB	COPTIC SMALL LETTER OLD COPTIC SHIMA
DC	COPTIC CAPITAL LETTER OLD NUBIAN SHIMA
DD	COPTIC SMALL LETTER OLD NUBIAN SHIMA
DE	COPTIC CAPITAL LETTER OLD NUBIAN NGI
DF	COPTIC SMALL LETTER OLD NUBIAN NGI
E0	COPTIC CAPITAL LETTER OLD NUBIAN NYI
E1	COPTIC SMALL LETTER OLD NUBIAN NYI
E2	COPTIC CAPITAL LETTER OLD NUBIAN WAU
E3	COPTIC SMALL LETTER OLD NUBIAN WAU
E4	COPTIC SYMBOL KAI
E5	COPTIC SYMBOL MI RO
E6	COPTIC SYMBOL PI RO
E7	COPTIC SYMBOL STAUROS
E8	COPTIC SYMBOL TAU RO
E9	COPTIC SYMBOL KHI RO
EA	COPTIC SYMBOL SHIMA SIMA
EB	(This position shall not be used)
EC	(This position shall not be used)
ED	(This position shall not be used)
EE	(This position shall not be used)
EF	(This position shall not be used)
F0	(This position shall not be used)
F1	(This position shall not be used)
F2	(This position shall not be used)
F3	(This position shall not be used)
F4	(This position shall not be used)
F5	(This position shall not be used)
F6	(This position shall not be used)
F7	(This position shall not be used)
F8	(This position shall not be used)
F9	COPTIC OLD NUBIAN FULL STOP
FA	COPTIC OLD NUBIAN DIRECT QUESTION MARK
FB	COPTIC OLD NUBIAN INDIRECT QUESTION MARK
FC	COPTIC OLD NUBIAN VERSE DIVIDER
FD	COPTIC FRACTION ONE HALF
FE	COPTIC FULL STOP
FF	COPTIC MORPHEME DIVIDER