

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

Doc Type: Working Group Document

Title: Revised proposal to add the Coptic alphabet to the BMP of the UCS
Source: NSAI/ICTSCC/SC4, Ireland
Status: Member Body Contribution
Action: For consideration by JTC1/SC2/WG2 and UTC
Date: 2003-10-01

This document requests additional characters to be added to the UCS and contains the proposal summary form. It replaces N2611, and gives additional information about the KHI RO symbol and about the DOUBLE HYPHEN.

A. Administrative**1. Title**

Revised proposal to add the Coptic alphabet to the BMP of the UCS.

2. Requester's name

Ireland

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

Member body contribution.

4. Submission date

2003-10-01

5. Requester's reference (if applicable)

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

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

Yes, one.

1b. Name of the existing block

General punctuation

2. Number of characters in proposal

60 (59 + 1)

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. UTC has recently acknowledged the need to disunify Coptic from Greek.

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)

2c. If YES, available relevant documents

N2444

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.

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

Yes.

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

On foot of the arguments given in N2444, the UTC and WG2 have decided to disunify the Coptic script from the Greek script. Currently the UCS encodes 7 Coptic letters (14 characters with the casing pairs); this proposal adds 26 letters (52 characters with the casing pairs), as well as several other characters needed for basic Coptic text processing, including standard logotypes used in Coptic text. It is recognized that there will be further additions required by scholars for special purposes, but the set here will allow basic Coptic text processing of, for instance, the Gospel of Thomas and other important Coptic texts. The set proposed here is the *core character set* for Coptic. (Additional characters include, at least, alphabetical characters representing the sounds in Old Nubian, namely /dz/, /ŋ/, /ɲ/, /w/. There are also additional script-specific symbols.)

Combining characters

A number of generic characters are used in Coptic. The diaeresis (U+ 0308 ¨) can be used over ɪ and ʋ in syllable-initial position; the apostrophe (U+2019 ') is used to indicate the end of phonological words and clitics; the circumflex (U+0302 ^) is used in post-seventh century texts on vowels which form independent syllables. According to Fossey 1948, the acute accent (U+0301 ´) can be used to indicate stress; likely this is a didactic use in modern editions.

A special combining mark called the *jinkim* is used in Coptic. The *jinkim* indicates the syllabic pronunciation of a character, that is, a consonant pronounced with a reduced vowel: so **ϥ̄** is pronounced

[sⁿ]. Coptic scribes treated the *jinkim* differently: in Sahidic, it looks like a macron; in Akhmimic (sometimes Fayumic), it looks like a grave; in Bohairic, it looks like a dot above. At this time we accept the proposal to unify these with macron (U+ 0304 ¯), grave (U+ 0300 `), and dot above (U+ 0307 ˙). It may be the case that because of monofont issues with Greek varia or Latin macron that this may prove impractical, but at this time we are only proposing to add the core character set. We expect that the UTC and WG2 will look as favourably on an eventual disunification of the *jinkims* from the other combining accents as they have for the disunification of Coptic letters from Greek letters, if Copticists find they have the same problems.

Punctuation

A number of punctuation characters are used in Coptic. Several of these are generic punctuation characters: FULL STOP, COLON, SEMICOLON (= GREEK QUESTION MARK) and MIDDLE DOT (= GREEK ANO TELEIA) are used, and in edited texts quotation marks are used. A COPTIC FULL STOP ⲛⲟⲩ can be used. In some didactic texts, hyphen is distinguished from a special oblique double hyphen Ⲛ as can be seen in the samples below. This character has been observed in use in other scripts. We believe it should be encoded in the General Punctuation block. It forms a part of *this* proposal; we believe the evidence here is strong enough to encode it at U+2055, and we encourage UTC and WG2 not to wait for “another proposal”.

Numerals

Numerals are indicated with letters of the alphabet, as in Greek; sometimes COMBINING OVERLINE U+0305 is used with them. The GREEK LOWER NUMERAL SIGN U+0375 or the COMBINING DOUBLE OVERLINE U+033F can be used to indicate multiples of 1000, so α = 1, ᾱ or ᾱ̄ = 1000; ᾱ̄ⲟⲩⲛⲏ = 1888. The GREEK NUMERAL SIGN U+0374 is used for fractions, so ϣ´ = 1/3, though 1/2 is indicated by the symbol ϣ. See figure 11.

Abbreviations

The COMBINING OVERLINE U+0305 is also used to indicate abbreviations: ⲛⲛⲁ̄ for ⲛⲛⲉⲩⲣⲟⲥ.

Additional symbols

In dates, the Diocletan era is indicated with a ϣⲓ *mi ro* or ϣⲓ *khi ro* (either originally derived from the Greek χρόνος μαρτύρων ‘time of martyrs’). These are conventional symbols which cannot be algorithmically decomposed. The latter must not be unified with U+2627 CHI RHO because the CHI RHO is a ligature of Greek CHI and Greek RHO, and these have been disunified from Coptic ΚΗΙ and Coptic ΡΟ. Therefore it is only logical (as well as necessary for the stated monofont requirement for Greek and Coptic), for the Coptic ΚΗΙ ΡΟ to be likewise disunified. See figures 15 and 16 below for more information. Note the use of ϣⲓ ϲⲟⲩ WITH STROKE as a standard abbreviation: ϣⲓ ϲⲟⲩ = ϣⲓⲧⲁⲩⲣⲟⲥ ‘cross’; it is not a ligature of *ⲧⲁⲩⲣ., though it is probably an original ligature of the two letters *tau ro*.

Character names.

Transliterated character names taken from Coptic dialects as given in Crum are used for the Coptic letters. A chart showing these and other variants is given below. Note that we have specified five columns for Coptic. It is known that there will be more than five *non-core* additions to this script which await further study.

Unicode Character Properties

```
2055;DOUBLE HYPHEN;Pd;0;ON;;;;N;;;;;
2C80;COPTIC CAPITAL LETTER ALFA;Lu;0;L;;;;N;;;2CA0;
2C81;COPTIC CAPITAL LETTER VIDA;Lu;0;L;;;;N;;;2CA1;
2C82;COPTIC CAPITAL LETTER GAMMA;Lu;0;L;;;;N;;;2CA2;
2C83;COPTIC CAPITAL LETTER DALDA;Lu;0;L;;;;N;;;2CA3;
2C84;COPTIC CAPITAL LETTER EIE;Lu;0;L;;;;N;;;2CA4;
2C85;COPTIC CAPITAL LETTER SOU;Lu;0;L;;;;N;;;2CA5;
2C86;COPTIC CAPITAL LETTER ZATA;Lu;0;L;;;;N;;;2CA6;
2C87;COPTIC CAPITAL LETTER HATE;Lu;0;L;;;;N;;;2CA7;
2C88;COPTIC CAPITAL LETTER THETHE;Lu;0;L;;;;N;;;2CA8;
2C89;COPTIC CAPITAL LETTER IAUDA;Lu;0;L;;;;N;;;2CA9;
```

2C8A;COPTIC CAPITAL LETTER KAPA;Lu;0;L;;;;;N;;;2CAA;
 2C8B;COPTIC CAPITAL LETTER LAULA;Lu;0;L;;;;;N;;;2CAB;
 2C8C;COPTIC CAPITAL LETTER MI;Lu;0;L;;;;;N;;;2CAC;
 2C8D;COPTIC CAPITAL LETTER NI;Lu;0;L;;;;;N;;;2CAD;
 2C8E;COPTIC CAPITAL LETTER KSI;Lu;0;L;;;;;N;;;2CAE;
 2C8F;COPTIC CAPITAL LETTER O;Lu;0;L;;;;;N;;;2CAF;
 2C90;COPTIC CAPITAL LETTER PI;Lu;0;L;;;;;N;;;2CB0;
 2C91;COPTIC CAPITAL LETTER RO;Lu;0;L;;;;;N;;;2CB1;
 2C92;COPTIC CAPITAL LETTER SIMA;Lu;0;L;;;;;N;;;2CB2;
 2C93;COPTIC CAPITAL LETTER TAU;Lu;0;L;;;;;N;;;2CB3;
 2C94;COPTIC CAPITAL LETTER UA;Lu;0;L;;;;;N;;;2CB4;
 2C95;COPTIC CAPITAL LETTER FI;Lu;0;L;;;;;N;;;2CB5;
 2C96;COPTIC CAPITAL LETTER KHI;Lu;0;L;;;;;N;;;2CB6;
 2C97;COPTIC CAPITAL LETTER PSI;Lu;0;L;;;;;N;;;2CB7;
 2C98;COPTIC CAPITAL LETTER OOU;Lu;0;L;;;;;N;;;2CB8;
 2C99;COPTIC CAPITAL LETTER AKHMIMIC KHEI;Lu;0;L;;;;;N;;;2CB9;
 2C9A;COPTIC CAPITAL LETTER RO WITH STROKE;Lu;0;L;;;;;N;;;2CBA;
 2CA0;COPTIC SMALL LETTER ALFA;Ll;0;L;;;;;N;;;2C80;;2C80
 2CA1;COPTIC SMALL LETTER VIDA;Ll;0;L;;;;;N;;;2C81;;2C81
 2CA2;COPTIC SMALL LETTER GAMMA;Ll;0;L;;;;;N;;;2C82;;2C82
 2CA3;COPTIC SMALL LETTER DALDA;Ll;0;L;;;;;N;;;2C83;;2C83
 2CA4;COPTIC SMALL LETTER EIE;Ll;0;L;;;;;N;;;2C84;;2C84
 2CA5;COPTIC SMALL LETTER SOU;Ll;0;L;;;;;N;;;2C85;;2C85
 2CA6;COPTIC SMALL LETTER ZATA;Ll;0;L;;;;;N;;;2C86;;2C86
 2CA7;COPTIC SMALL LETTER HATE;Ll;0;L;;;;;N;;;2C87;;2C87
 2CA8;COPTIC SMALL LETTER THETHE;Ll;0;L;;;;;N;;;2C88;;2C88
 2CA9;COPTIC SMALL LETTER IAUDA;Ll;0;L;;;;;N;;;2C89;;2C89
 2CAA;COPTIC SMALL LETTER KAPA;Ll;0;L;;;;;N;;;2C8A;;2C8A
 2CAB;COPTIC SMALL LETTER LAULA;Ll;0;L;;;;;N;;;2C8B;;2C8B
 2CAC;COPTIC SMALL LETTER MI;Ll;0;L;;;;;N;;;2C8C;;2C8C
 2CAD;COPTIC SMALL LETTER NI;Ll;0;L;;;;;N;;;2C8D;;2C8D
 2CAE;COPTIC SMALL LETTER KSI;Ll;0;L;;;;;N;;;2C8E;;2C8E
 2CAF;COPTIC SMALL LETTER O;Ll;0;L;;;;;N;;;2C8F;;2C8F
 2CB0;COPTIC SMALL LETTER PI;Ll;0;L;;;;;N;;;2C90;;2C90
 2CB1;COPTIC SMALL LETTER RO;Ll;0;L;;;;;N;;;2C91;;2C91
 2CB2;COPTIC SMALL LETTER SIMA;Ll;0;L;;;;;N;;;2C92;;2C92
 2CB3;COPTIC SMALL LETTER TAU;Ll;0;L;;;;;N;;;2C93;;2C93
 2CB4;COPTIC SMALL LETTER UA;Ll;0;L;;;;;N;;;2C94;;2C94
 2CB5;COPTIC SMALL LETTER FI;Ll;0;L;;;;;N;;;2C95;;2C95
 2CB6;COPTIC SMALL LETTER KHI;Ll;0;L;;;;;N;;;2C96;;2C96
 2CB7;COPTIC SMALL LETTER PSI;Ll;0;L;;;;;N;;;2C97;;2C97
 2CB8;COPTIC SMALL LETTER OOU;Ll;0;L;;;;;N;;;2C98;;2C98
 2CB9;COPTIC SMALL LETTER AKHMIMIC KHEI;Ll;0;L;;;;;N;;;2C99;;2C99
 2CBA;COPTIC SMALL LETTER RO WITH STROKE;Ll;0;L;;;;;N;;;2C9A;;2C9A
 2CBB;COPTIC SYMBOL MI RO;So;0;N;;;;;N;;;;;
 2CBC;COPTIC SYMBOL KHI RO;So;0;N;;;;;N;;;;;
 2CBD;COPTIC SYMBOL KHRISTOS;So;0;N;;;;;N;;;;;
 2CCE;COPTIC FULL STOP;Po;0;CS;;;;;N;;;;;
 2CCF;COPTIC FRACTION ONE HALF;No;0;ON;;;;;1/2;N;;;;;

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Figures

THE COPTIC ALPHABET.

	Names.	Values.	COPTIC.	GREEK UNCIALS.		Names.	Values.	COPTIC.
1	Alpha	a	Ⲁ ⲁ	Α	17	Pi	p, b	Π π
2	Vida	b, v	Ⲃ ⲃ	Β	18	Ro	r	Ρ ρ
3	Gamma	g	Ⲅ ⲅ	Γ	19	Sima	s	Ϛ ϛ
4	Dalda	d	Ⲇ ⲇ	Δ	20	Tau	t, d	Ⲙ ⲙ
5	Ei	e	Ⲉ ⲉ	Ε	21	He	ü	Ϙ ϙ
6	So	ś	Ⲋ ⲋ	Ϟ	22	Phi	ph	Ϙ ϙ
7	Zita	dz	Ⲍ ⲍ	Ζ	23	Khi	kh	Ϟ ϟ
8	Ita	e, ī	Ⲏ ⲏ	Η	24	Psi	ps	Ϡ ϡ
9	Thita	th	Ⲑ ⲑ	Θ	25	Au	ū, ō	Ϣ ϣ
10	Jauta	i	Ⲓ ⲓ	Ι	26	Shei	sh	ϣ Ϥ
11	Kapa	k	Ⲕ ⲕ	Κ	27	Fei	f	ϥ Ϧ
12	Laula	l	Ⲗ ⲗ	Λ	28	Chei	ch	ϧ Ϩ
13	Mi	m	Ⲙ ⲙ	Μ	29	Hori	h	ϩ Ϫ
14	Ni	n	Ⲛ ⲛ	Ν	30	Janjia	j, g, dzh	ϫ Ϭ
15	Ksi	ks	Ⲝ ⲝ	Ξ	31	Tshima	tsh	ϭ Ϯ
16	O	o	ⲟ Ⲡ	Ο	32	Ti	ti	ϯ ϰ

Figure 1. The Coptic alphabet, from Taylor 1883.

Die koptischen Buchstaben und ihre Umschreibung:

Ⲁ a	Ⲑ i, j	Ⲕ r	ϣ š, sch
Ⲃ b	Ⲓ k	Ϛ s	ϥ f
Ⲅ g	Ⲍ l	Ⲙ t	ϧ, Ϩ h, ch
Ⲇ d	Ⲏ m	Ϙ u, w, y	ϩ h, ch
Ⲉ ě	Ⲛ n	Ϙ ph	ϩ h
Ⲋ z	Ⲝ ks, x	Ϟ kh, ch	ϫ č, tsch
Ⲏ ē, ê	ⲟ ō	ϡ ps	ϭ c, kj
Ⲑ th	Ⲓ p	Ϣ ō, ô	ϯ ti

Die Namen der Buchstaben sind nur bohairisch in moderner Form erhalten und lauten nach WORRELL (UM 314ff.) folgendermaßen²: Ⲁ *alfa*, Ⲃ *bēda* oder *veda*, Ⲅ *gamma*, Ⲇ *dalda*, Ⲉ *ēje*, Ⲋ *zada*, Ⲏ *hāda*, Ⲑ *tūtite*, Ⲓ *jōda*, Ⲕ *kabba*, Ⲗ *lōla*, Ⲙ *mēj*, Ⲛ *nī*, Ⲝ *eksi*, ⲟ *ōw*, Ⲓ *bej*, Ⲕ *rōw*, Ⲗ *sāmma*, Ⲙ *daū*, Ϙ *he*, Ϙ *fīj*, Ϟ *kij*, ϡ *ēbsi*, Ϣ *ō*, ϣ *schaj*, ϥ *faj*, ϧ *chaj*, ϩ *hōri*, ϫ *dschandscha*, ϭ *schīma*, ϯ *dij*, ϰ *dī*.

Figure 2. The Coptic alphabet, from Till 1966.

KOPTISCH

Name	Zeichen	Umschrift und Lautwert
Alfa	Ⲁ ⲁ	a
Vida	Ⲃ ⲃ	b [b, v]
Gamma	Ⲅ ⲅ	g
Dalda	Ⲇ ⲇ	d
Ei	Ⲉ ⲉ	e [e]
Sita	Ⲋ ⲋ	z
Hîda	Ⲍ ⲍ	ē
Tîda	Ⲏ ⲏ	th [t+h]
Jōda	Ⲑ ⲑ	i [i, j]
Kappa	Ⲓ ⲓ	k
Lōla	ⲕ Ⲍ	l
Mi	Ⲏ ⲏ	m
Ni	Ⲑ ⲑ	n
Exi	Ⲓ ⲓ	x [ks]
O	ⲕ Ⲍ	o [ō]
Bi	Ⲏ ⲏ	p
Ro	Ⲑ ⲑ	r
Sîma	Ⲓ ⲓ	s
Dau	ⲕ Ⲍ	t
He	Ⲏ ⲏ	y [i, y]
Phi	Ⲑ ⲑ	ph [p+h]
Chi	Ⲓ ⲓ	kh [k+h]
Epsi	ⲕ Ⲍ	ps
O	Ⲏ ⲏ	ō
Schāi	Ⲑ ⲑ	š [sch]
Fāi	Ⲓ ⲓ	f
Chāi	ⲕ Ⲍ	ch [ch]
Hori	Ⲏ ⲏ	h
Dschandscha	Ⲑ ⲑ	dž [dsch]
Schima	Ⲓ ⲓ	č [g, tsch]
Di	ⲕ Ⲍ	ti

Allgemeines. Das Koptische ist die in christlicher Zeit (seit dem 3. Jahrhundert) gesprochene und mit griechischen Buchstaben geschriebene Sprache der Ägypter. Seit dem 16. Jahrhundert ist es vom Vulgärarabischen verdrängt und lebt heute nur noch im bohairischen Dialekt als Kirchensprache fort (ähnlich dem Latein der katholischen Kirche). Der Name dieses letzten Ausläufers der vorher mit Hieroglyphen (siehe Taf. 6) geschriebenen altägyptischen Sprache geht auf arabisch Qibt, korrekter Qibt = Ⲛⲓⲛⲓⲟⲩ (Αἰγύπτιος) zurück. Die koptische Sprache, deren Literatur überwiegend biblisch und kirchlich ist, liegt uns in mehreren Dialekten vor, den oberägyptischen des Sahidischen, Achmimischen, Fayumischen, Memphitischen und dem unterägyptischen des Bohairischen (vgl. die unten mitgeteilte Textprobe).

Das Alphabet besteht aus 31 Buchstaben, die von links nach rechts geschrieben werden wie die griechischen, die den Grundbestand des Alphabets bilden. Die letzten 7 Buchstaben sind der demotischen Schrift entnommen, und zwar liegt zugrunde dem

Ⲛ demot. Ⲛ (Ⲛⲓⲛⲓⲟⲩ); ϣ demot. ϣ (Ⲛⲓⲛⲓⲟⲩ);
 ⲛ demot. ⲛ (Ⲛⲓⲛⲓⲟⲩ); ϥ demot. ϥ (Ⲛⲓⲛⲓⲟⲩ);
 ⲛ dem. ⲛ (Ⲛⲓⲛⲓⲟⲩ); ⲛ dem. ⲛ (Ⲛⲓⲛⲓⲟⲩ); † dem. † (Ⲛⲓⲛⲓⲟⲩ).

Das letzte Zeichen † ist also keine Ligatur aus τ mit aufgesetztem ϣ; es drückt den Doppellaut ts aus. Der Buchstabe ϥ kommt nur im Bohairischen vor; ihm entspricht im Achmimischen ϥ (aus ϥ mit diakritischem Strich).

Außer den vollen Vokalen und Diphthongen (die im Gegensatz zu den Hieroglyphen mit Hilfe der griechischen Buchstaben geschrieben werden) kennt das Koptische noch einen unbestimmten »Murmelvokal« ε, den man im Sahidischen mit einem über den Konsonanten gesetzten - bezeichnet (im Bohairischen mit ⲛ, im Fayumischen mit ⲛ [vgl. Textproben]): ⲛ ⲉⲣ; ⲛ ⲉⲛ.

Die Zahlen, die im Sahidischen meist ausgeschrieben werden, bezeichnet das Bohairische mit den griechischen Buchstaben-ziffern (darunter ⲛ = 6; ⲛ = 900).

Abkürzungen. Für eine Anzahl häufiger griechischer Wörter (an denen die koptischen Texte reich sind) treten Abkürzungen ein: ⲛⲥ für ⲛⲥⲟⲩⲥ; ⲛⲥⲟⲩⲥ für ⲛⲥⲟⲩⲥⲟⲩⲥ; ⲛⲛⲁ für ⲛⲛⲉⲣⲉⲙⲁ u. a. m.

Worttrennung und Interpunktion. Die einzelnen Wörter werden in den koptischen Handschriften nicht voneinander getrennt. In unseren Drucken trennen wir der Übersichtlichkeit wegen so, daß wir auch in der Schrift zusammenziehen, was sprachlich als ein Ganzes aufzufassen ist, dessen einzelne Bestandteile dann noch durch Bindestriche getrennt werden können.

Als Interpunktionszeichen kommen in koptischen Handschriften Punkt ., Doppelpunkt :, satztrennendes + u. ä. vor. Die neueren Drucke gebrauchen die griechischen Interpunktionen.

Sprachprobe: Jesaja 5, 18 (in drei Dialekten mit allen Lesenzeichen).

Sahidisch: ⲟⲩⲉⲓ ⲛⲛⲉⲣⲉⲙⲁ ⲛⲛⲉⲣⲉⲙⲁ ⲛⲉⲣⲉⲙⲁ ⲛⲉⲣⲉⲙⲁ ⲉϥⲛⲟⲩ
 ⲁⲩⲱ ⲛⲛⲉⲣⲉⲙⲁ ⲛⲉⲣⲉⲙⲁ ⲛⲉⲣⲉⲙⲁ ⲛⲉⲣⲉⲙⲁ ⲛⲉⲣⲉⲙⲁ
 Fayumisch: ⲟⲩⲉⲓ ⲛⲛⲉⲣⲉⲙⲁ ⲛⲛⲉⲣⲉⲙⲁ ⲛⲛⲉⲣⲉⲙⲁ ⲛⲛⲉⲣⲉⲙⲁ
 ⲉϥⲛⲟⲩ ⲁⲩⲱ ⲛⲛⲉⲣⲉⲙⲁ ⲛⲛⲉⲣⲉⲙⲁ ⲛⲛⲉⲣⲉⲙⲁ ⲛⲛⲉⲣⲉⲙⲁ
 ⲟⲩⲉⲓ ⲛⲛⲉⲣⲉⲙⲁ ⲛⲛⲉⲣⲉⲙⲁ
 Bohairisch: ⲟⲩⲉⲓ ⲛⲛⲉⲣⲉⲙⲁ ⲛⲛⲉⲣⲉⲙⲁ ⲛⲛⲉⲣⲉⲙⲁ ⲛⲛⲉⲣⲉⲙⲁ
 ⲉϥⲛⲟⲩ ⲛⲛⲉⲣⲉⲙⲁ ⲛⲛⲉⲣⲉⲙⲁ ⲛⲛⲉⲣⲉⲙⲁ ⲛⲛⲉⲣⲉⲙⲁ ⲛⲛⲉⲣⲉⲙⲁ
 ⲛⲛⲉⲣⲉⲙⲁ ⲛⲛⲉⲣⲉⲙⲁ

Literatur.
 Steindorff, Abriß der koptischen Grammatik (Berlin 1921).
 Spiegelberg, Koptisches Handwörterbuch (Heidelberg 1921).

Figure 3. The Coptic alphabet, from the Reichsdruckerei 1924. The three forms of the jinkim are shown, as is the sentence divider.

TABLE 22.10: *The Sahidic Coptic Alphabet*

<i>Letter</i>	<i>Transcription</i>	<i>Phonetic Value</i>	<i>Name^a</i>	<i>Greek/Demotic Source</i>
Α	a	[a]	alpha	A
Β	v	[v]	vēta	B
Γ	k	[k]	kamma	Γ
Δ	t	[t]	talta	Δ
Ε	e	[e]	ei	E
Ζ	s	[s]	sata	Z
Η	ē	[e:]	hata	H
Θ	th	[th]	thita	Θ
Ι	i	[i]	iōta	I
Κ	k	[k]	kappa	K
Λ	l	[l]	lauta/lole	Λ
Μ	m	[m]	mē/me/mi	M
Ν	n	[n]	ne	N
Ξ	ks	[ks]	ksi	Ξ
Ο	o	[o]	ou	O
Π	p	[p]	pi	Π
Ρ	r	[r]	rō	P
Σ	s	[s]	sēmma	Σ
Τ	t	[t]	tau	T
Υ	u	[u]	he/ue	Υ
Φ	ph	[ph]	phi	Φ
Χ	kh	[kh]	khi	X
Ψ	ps	[ps]	psi	Ψ
Ω	ō	[o:]	ō	ω
Ϡ	š	[ʃ]	šai	Ϡ
ϡ	f	[f]	fai	ϡ
Ϣ	h	[h]	hori	Ϣ
ϣ	ḏ	[dʒ]	ḏandia	ϣ
Ϥ	q	[q]	qima	Ϥ
ϥ	ti	[ti]	ti	ϥ

a. Examples collected in Crum 1939, and cf. Vergote 1973, vol. 1a: 7, citing Worrell 1942; and Kasser 1991.

Figure 4. The Coptic alphabet and names from Ritner 1996.

Let.	Num.	Names	
1	1	Ⲁⲁ	αλφα alpha
2	2	Ⲃⲃ	βητα, βιδα bêta, vida
3	3	Ⲅⲅ	γαμμα gamma
4	4	Ⲇⲇ	δλδα, δαλδα dlda, dalda
5	5	Ⲉⲉ	ει, ειε ei, eie
	6	Ⲋⲋ	σοου soou
6	7	Ⲍⲍ	ζητα, ζιτα, ζατα zêta, zita, zata
7	8	Ⲏⲏ	ηητα, ηητα, ηητα, ηητα hêta, êta, hita, hate
8	9	Ⲑⲑ	θητα, θητα, θηθη thêta, thita, thethe
9	10	Ⲓⲓ	ιωτα, ιοτα, ιατα iôta, iota, iauda
10	20	Ⲕⲕ	καππα, καπα kappa, kapa
11	30	Ⲇⲇ	λατα, λατα, λατα lauda, laula, lole
12	40	Ⲙⲙ	μη, με, μι mê, me, mi
13	50	Ⲟⲟ	νε, ννη, ν ne, nnê, n
14	60	Ⲡⲡ	κι ksi
15	70	Ⲣⲣ	ου, ο ou, o
16	80	Ⲥⲥ	πι pi
17	100	Ⲧⲧ	ρω, ηρο, ρο rô, hro, ro
18	200	Ⲩⲩ	σημμα, σημμα, σημα, σημα sêmma, summa, sima, smma
19	300	Ⲫⲫ	τατ tau
20	400	Ⲭⲭ	ηε, ηε, ηα he, ue, ua
21	500	Ⲯⲱ	φι phi
22	600	Ⲳⲳ	χι khi
23	700	Ⲵⲵ	ψι psi
24	800	Ⲷⲷ	ω, ατ, ωου ô, au, ôou
25		Ⲹⲹ	σαι, σει šai, šei
26	90	Ⲻⲻ	φαι, φει fai, fei
27		Ⲽⲽ	— [unattested]
28		Ⲿⲿ	ηει, ηαι hei, hai
29		Ⲱⲱ	ηορι hori
30		Ⲳⲳ	χανγια, χενχε janjia, jenje
31		Ⲵⲵ	σιμα čima
		Ⲷⲷ	τι, τει, τει, τει, τει ti, tii, tiei, tei, tê, te
	900	Ⲱⲱ	

Figure 5. The Coptic alphabet. The first column indicates the letter order (for example, PHI is the twenty-first letter of the alphabet) as stated in Crum. The second column gives the numeric value of the letters. Transliterated character names taken from Coptic dialects as given in Crum 2000 are used for the Coptic letters. Note especially that Crum distinguishes AKHMIMIC KHEI, KHEI, and HORI in different entries in his dictionary.

ε- ερο- *Richtung: zu, in, an,*
gegen; bezeichnet den
Schuldner, den Dativ 237; je
109 B; Objekt 263; beim
Vergleich 152, 153; mit
Inf. 337, 338, 342, 345,
346 B, 367 (50 a)
ε- *Umstandssatz 328;*
II. Tempora 334 (52 a)

ε- *Umstandssatz 329*
ε- *Präsens II 303; mit ⲰⲁⲎ-*
Konditionalis 447, 448; mit
Ⲏⲁ Futurum II 306; mit ε
Futurum III 308
ε- *Relativpronomen 462.*
ε- *Suffix der 2. sg. f. 185, 190*

Figure 6. Sample text from Till's grammar showing the use of the DOUBLE HYPHEN, distinguished from the ordinary single hyphen.

Zahlenwert	Lautwert	Name	Koptisch	Griech. Unziale
1	a	alfa	Ⲁ	Α
2	b, v	vēda	Ⲃ	Β
3	g	gamma	Ⲅ	Γ
4	d	dalda	Ⲇ	Δ
5	ē	ēje	Ⲉ	Ε
6	–	sou	Ⲋ	Ϛ
7	z	zāda	Ⲍ	Ζ
8	ē	hāda	Ⲏ	Η
9	t-h	tutte	Ⲑ	Θ
10	j, i	jōda	Ⲓ	Ι
20	k	kabba	Ⲕ	Κ
30	l	lōla	Ⲗ	Λ
40	m	mēj	Ⲙ	Μ
50	n	ni	Ⲏ	Ν
60	ks	eksi	Ⲑ	Ξ
70	ō	ou	Ⲓ	Ο
80	p	bej	Ⲕ	Π
100	r	rou	Ⲗ	Ρ
200	s	samma	Ⲙ	Ϛ
300	t	daū	Ⲑ	Τ
400	i	he	Ⲓ	Υ
500	p-h	fij	Ⲕ	Φ
600	k-h	kij	Ⲗ	Χ
700	ps	ebsi	Ⲙ	Ψ
800	ō	ō	Ⲑ	Ω
900	–	–	ⲒⲔ	

Figure 7. Chart showing Coptic with the Greek uncial forms from which they were derived, from Haarmann 1990.

80 10 ⲛⲁⲉⲓ ⲛⲉ ⲛⲱⲁⲗⲉ ⲉⲟⲛⲓⲛⲓ ⲉⲛⲧⲁⲓϚ ⲉⲧⲟⲛⲟⲩ
 ⲭⲟⲟⲧ ⲁⲧⲱ ⲁϚⲉⲣⲁⲓϚⲟⲧ ⲛⲟⲓ ⲁⲓⲁⲧⲙⲟϚ
 12 ⲓⲟⲩⲁⲁϚ ⲑⲱⲙⲁϚ (1) ⲁⲧⲱ ⲛⲉⲭⲁϚ Ϛⲉ ⲛⲉ
 ⲧⲁⲣⲉ ⲉⲑⲉⲣⲙⲛⲛⲉⲓⲁ ⲛⲛⲉⲉⲱⲁⲗⲉ Ϛⲛⲁ
 14 Ϛⲓ ⲫⲛⲉ ⲁⲛ ⲁⲛⲙⲟⲧ (2) ⲛⲉⲭⲉ ⲓϚ ⲙⲛⲧⲣⲉϚ
 ⲁⲟ ⲛⲟⲓ ⲛⲉⲧⲱⲛⲉ ⲉϚⲱⲛⲉ ϚⲁⲛⲧⲉϚ
 16 ⲟⲓⲛⲉ ⲁⲧⲱ ⲣⲟⲧⲁⲛⲓ ⲉϚϚⲁⲛⲟⲓⲛⲉ Ϛⲛⲁ
 Ϛⲧⲣⲧⲣ ⲁⲧⲱ ⲉϚϚⲁⲛϚⲟⲧⲣⲧⲣ Ϛⲛⲁⲣ
 18 (blank) Ϛⲛⲛⲣⲉ ⲁⲧⲱ Ϛⲛⲁⲣ
 ⲣⲣⲟ ⲉϚⲙⲓ ⲛⲧⲛⲣⲉ (3) ⲛⲉⲭⲉ ⲓϚ Ϛⲉ ⲉⲱⲁ
 20 ⲭⲟⲟϚ ⲛⲛⲧⲛⲓ ⲛⲟⲓ ⲛⲉⲧⲱⲛⲉ Ϛⲛⲧⲓ ⲧⲛⲟⲧⲛⲓ
 Ϛⲉ ⲉⲓϚ Ϛⲛⲧⲉ ⲉⲧⲙⲛⲧⲣⲟ Ϛⲛⲧⲛⲉ ⲉ
 22 ⲉⲓⲉ ⲛⲣⲁⲁⲛⲧⲓ ⲛⲁⲣ Ϛⲟⲣⲛⲓ ⲉⲣⲱⲧⲛⲓ ⲛⲧⲉ

Figure 8. Sample text from an edition of the Gospel of Thomas showing use of *jinkim*, diaeresis, apostrophe (drawn as a grave-like stroke), and middle dot.

5. *Accentuation.* L'écriture copte emploie surtout l'accent grave (ou un point) et des traits horizontaux suscrits au-dessus de certaines lettres; c'est pour indiquer qu'une voyelle brève ou auxiliaire ε, correspondant à notre e accentué ou atone, est sous-entendue par l'écriture.

Dans ce cas, le bohairique emploie un accent grave ` (ou un point), au-dessus de la première consonne des mots : $\dot{\alpha}\kappa\alpha\epsilon$ (ou $\dot{\alpha}\kappa\alpha\epsilon$) pour $\epsilon\mu\kappa\alpha\epsilon$ *emkah*.

Toutefois, dans le corps du mot, le bohairique écrit la voyelle brève ε.

Tous les autres dialectes remplacent l'accent ` ou ` par un trait horizontal $\bar{\quad}$ tracé au-dessus de la première consonne : $\bar{\rho}\nu\omicron\beta\epsilon$ pour $\epsilon\rho\nu\omicron\beta\epsilon$ *ernobe*.

Dans le corps du mot, le saïdique indique aussi l'e accentué ou atone par le même trait entre les deux consonnes et au-dessus d'elles : $\bar{\zeta}\bar{\alpha}\bar{\mu}\bar{\epsilon}$ pour *hème*; $\bar{\omega}\bar{\tau}\bar{\alpha}$ pour *sôm*; $\bar{\omega}\bar{\nu}\bar{\zeta}$ pour *ôn'h*; $\bar{\epsilon}\bar{\pi}\bar{\epsilon}\bar{\kappa}\bar{\rho}\bar{\alpha}\bar{\rho}\bar{\alpha}$ pour *epelr'mr'm*.

Les règles d'accentuation sont souvent hors d'usage, bon nombre de manuscrits n'étant pas accentués.

6. Le trait horizontal suscrit est encore employé :

1° Pour indiquer que certains mots très fréquents, coptes ou grecs, sont écrits en abrégé :

$\bar{\phi}\bar{\tau}$, $\bar{\phi}\bar{\tau}$ pour $\bar{\phi}\bar{\nu}\bar{\omicron}\bar{\gamma}\bar{\tau}$ « Dieu ».	$\bar{\rho}\bar{\epsilon}$ pour $\bar{\rho}\bar{\epsilon}\bar{\omicron}\bar{\iota}\bar{\varsigma}$ « le Seigneur ».
$\bar{\epsilon}\bar{\epsilon}$ pour $\bar{\epsilon}\bar{\epsilon}\bar{\omicron}\bar{\varsigma}$ « Dieu ».	$\bar{\kappa}\bar{\epsilon}$ pour $\bar{\kappa}\bar{\rho}\bar{\iota}\bar{\epsilon}$ « Seigneur ».
$\bar{\iota}\bar{\epsilon}$, $\bar{\iota}\bar{\eta}\bar{\epsilon}$ pour $\bar{\iota}\bar{\eta}\bar{\omicron}\bar{\gamma}\bar{\epsilon}\bar{\varsigma}$ « Jésus ».	$\bar{\pi}\bar{\nu}\bar{\alpha}$ pour $\bar{\pi}\bar{\nu}\bar{\epsilon}\bar{\gamma}\bar{\mu}\bar{\alpha}$ « esprit ».
$\bar{\chi}\bar{\epsilon}$ pour $\bar{\chi}\bar{\rho}\bar{\iota}\bar{\varsigma}\bar{\tau}\bar{\omicron}\bar{\varsigma}$ « Christ ».	$\bar{\epsilon}\bar{\theta}$ pour $\bar{\epsilon}\bar{\theta}\bar{\gamma}\bar{\alpha}\bar{\beta}$ « saint ».

Figure 9. Text from Fossey 1948 describing the use of the *jinkim* and the mark of abbreviation.

Für häufige nomina sacra werden Kurzschreibungen (Zusammenziehungen) verwendet, die durch einen waagrechten Strich darüber als solche gekennzeichnet sind. Die gebräuchlichsten sind: $\bar{\Delta}\bar{\Delta}\bar{\Delta} = \bar{\Delta}\bar{\Delta}\bar{\gamma}\bar{\epsilon}\bar{\iota}\bar{\Delta}$, $\bar{\iota}\bar{\epsilon} = \bar{\iota}\bar{\eta}\bar{\omicron}\bar{\gamma}\bar{\epsilon}\bar{\varsigma}$, $\bar{\iota}\bar{\eta}\bar{\alpha} = \bar{\iota}\bar{\varsigma}\bar{\rho}\bar{\alpha}\bar{\eta}\bar{\lambda}$, $\bar{\theta}\bar{\iota}\bar{\lambda}\bar{\eta}\bar{\mu} = \bar{\theta}\bar{\iota}\bar{\epsilon}\bar{\rho}\bar{\omicron}\bar{\gamma}\bar{\varsigma}\bar{\Delta}\bar{\lambda}\bar{\eta}\bar{\mu}$, $\bar{\pi}\bar{\nu}\bar{\alpha} = \bar{\pi}\bar{\nu}\bar{\epsilon}\bar{\gamma}\bar{\mu}\bar{\alpha}$, $\bar{\varsigma}\bar{\rho}\bar{\omicron}\bar{\varsigma} = \bar{\varsigma}\bar{\tau}\bar{\Delta}\bar{\gamma}\bar{\rho}\bar{\varsigma}$, $\bar{\varsigma}\bar{\omega}\bar{\rho}$ = $\bar{\varsigma}\bar{\omega}\bar{\tau}\bar{\eta}\bar{\rho}$. $\bar{\chi}\bar{\epsilon} = \bar{\chi}\bar{\rho}\bar{\epsilon}\bar{\iota}\bar{\varsigma}$.

Figure 10. Text from Till 1966 showing abbreviations, including the use of COPTIC SMALL LETTER RO WITH STROKE

wöhnlich sind sie durch einen waagrechten Strich über als Zahlen gekennzeichnet. Die Zahlwerte sind: $\bar{\lambda} = 1$, $\bar{\beta} = 2$, $\bar{\gamma} = 3$, $\bar{\Delta} = 4$, $\bar{\epsilon} = 5$, $\bar{\zeta} = 6$, $\bar{\zeta} = 7$, $\bar{\eta} = 8$, $\bar{\theta} = 9$, $\bar{\iota} = 10$, $\bar{\kappa} = 20$, $\bar{\lambda} = 30$, $\bar{\mu} = 40$, $\bar{\nu} = 50$, $\bar{\xi} = 60$, $\bar{\omicron} = 70$, $\bar{\pi} = 80$, $\bar{\varphi} = 90$, $\bar{\rho} = 100$, $\bar{\varsigma} = 200$, $\bar{\tau} = 300$, $\bar{\gamma} = 400$, $\bar{\phi} = 500$, $\bar{\chi} = 600$, $\bar{\psi} = 700$, $\bar{\omega} = 800$, $\bar{\rho} = 900$, $\bar{\lambda}^2 = 1000$ usw.; z. B. $\bar{\lambda}\bar{\omega}\bar{\pi}\bar{\eta} = 1888$.

Die Brüche, deren Zähler mit ganz wenigen Ausnahmen stets 1 ist, werden dadurch bezeichnet, daß der Zahl für den Nenner ein schräger Strich rechts oben beigefügt wird: $\bar{\gamma}' = \frac{1}{3}$. Ausnahmen: $\bar{\jmath} = \frac{1}{2}$.

Figure 11. Coptic numerals from Till 1966.

ā = 1	k̄ = 20	ī = 300
ḅ = 2	l̄ = 30	ī̄ = 400
ḡ = 3	ū = 40	ḡ = 500
ḏ = 4	n̄ = 50	ḏ = 600
ē = 5	z̄ = 60	ī̄̄ = 700
ḥ = 6	ō = 70	ḡ̄ = 800
z̄ = 7	p̄ = 80	ḡ̄̄ = 900
h̄ = 8	q̄ = 90	ā̄ = 1.000
ḥ̄ = 9	p̄̄ = 100	ḅ̄ = 2.000
ī̄ = 10	c̄ = 200	ī̄̄̄ = 10.000

7. Dans la *grammaire* : on écrit l'accent aigu ' pour indiquer la voyelle formative qui porte l'accent tonique : *ῥῶμι, κόλκεα, νοῦτ*.

Dans les *grammaires* et les *vocabulaires*, on use aussi de *traits d'union* dans les mots composés et pour séparer préfixes et suffixes de la racine. Le mot copte à l'état *construit*, c'est-à-dire uni à son complément, est suivi d'un trait d'union, *ρεμ-*, qui le réunira à son complément éventuel; le mot à l'état *pronominal*, c'est-à-dire accompagné d'un pronom, est suivi de deux traits obliques, *βολ=*, qui annoncent un pronom éventuel.

8. Certains manuscrits coptes sont ponctués. La ponctuation des textes imprimés est généralement ajoutée par l'éditeur.

Consulter : A. MALLON, *Grammaire copte*, Beyrouth, 1907.

TEXTE COPTE.

ΦΔΙ ΠΙΒΙΟΣ^a ΝΕΜ ΝΙΠΟΛΙΤΕΙΑ^a ΝΤΕ ΠΕΝΙΩΤ ΕΘΟΥΔΒ ΜΠΝΔΤΟΦΟΡΟΣ⁽¹⁾
 ΔΒΒΔ ΒΕΝΟΦΕΡ ΠΑΝΑΧΩΡΗΤΗΣ^a ΕΤΑΦΧΩΚ ΕΒΟΛ ΝΣΟΥ ΙΞ⁽²⁾ ΜΠΔΒΟΤ
 ΠΑΩΝΙ ΞΕΝ ΟΥΖΕΙΡΗΝΗ^a ΝΤΕ ΦΤ ΔΜΗΝ. Λ ΟΥΟΥΟΝ ΝΑΙΝΑΧΩΡΗΤΗΣ^a

(1) Abrégé pour ΜΠΝΕΥΜΑΤΟΦΟΡΟΣ. — (2) 16. — ^a Mots grecs.

Figure 12. Text from Fossey 1948 describing the use of the horizontal stroke over numerals and the double horizontal stroke over thousands. The text also describes the use of the acute accent to indicate tonic accent, and the distinction between hyphen and DOUBLE HYPHEN.

⋮ lightface double hyphen at end-of-line is a hyphen
 that should be retained
 † fistnote (see definition)
 + plus sign in etymology joins words or word
 elements
 † dagger precedes a death date

Figure 13. The DOUBLE HYPHEN with its use described in the Webster's Third New International Dictionary.

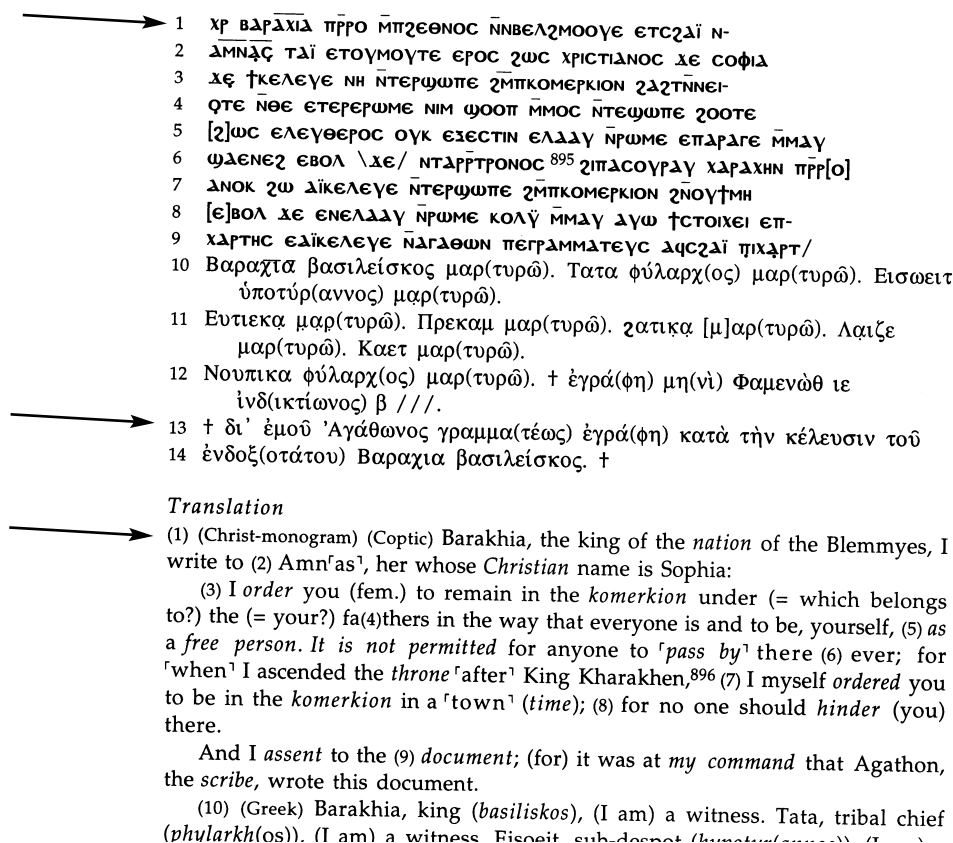


Figure 15. Sample from Eide et al. 1998. Royal disposition in Coptic and Greek text from Gebelen. The editor, Richard Holton Pierce, informed that the original text gives the KHI RO SYMBOL in line 1 of the Coptic text; it was set with two letters χρ because the font had no suitable monogram. The DAGGER is used in line 13 to indicate the Sign of the Cross in the Greek text.

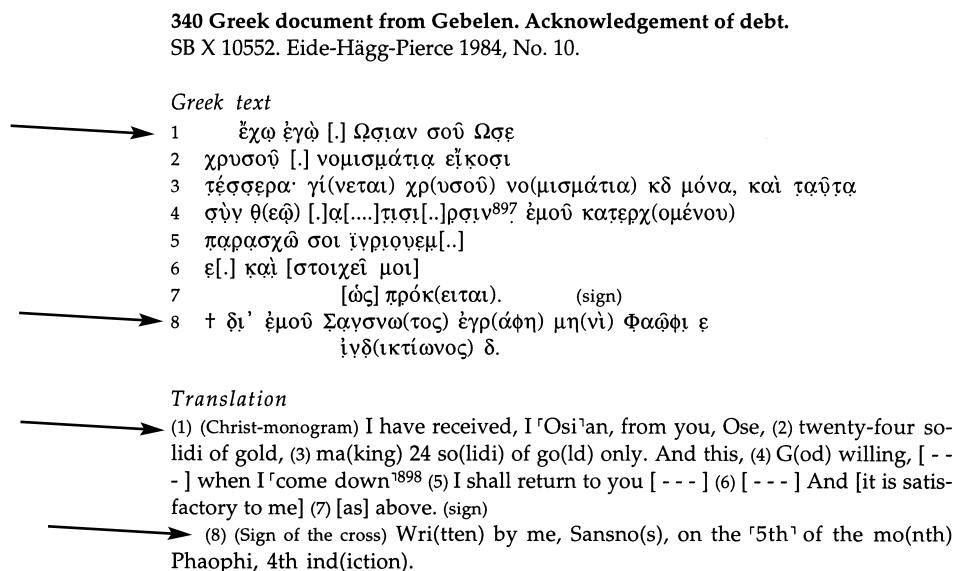


Figure 16. Sample from Eide et al. 1998. Acknowledgement of debt in Greek text from Gebelen. The editor informed that the original text gives the CHI RHO symbol in line 1 of the Greek text; it was set with a space left because he did not believe that two letters χQ was adequate, though the encoded CHI RHO in the Unicode Standard would do for this (though not for the Coptic sample above). The DAGGER is used again in line 8 to indicate the Sign of the Cross.

(earlier apparently they beat a stick; then) [...
^{GIŠ}*p*]a-a-hi-ša UL walh[zi ...] nu-ššan 1 ^{GIŠ}*pa-a*h-
 hi-ša x [... (x x-anzi)] / [maḥhan=ma=aš] (var.
 GIM-[an ...]) parkuišzi ^{GIŠ}*pa-a*h-hi-ša dān wal~
 [(han)zi] “[...] he does not beat the *p.*; [...] ...
 thereupon they ... one *p.*; [but] when [he(?)] is
 pure, they beat the *p.* a second time” Bo 4951 rev. 3-5
 (birth rit.), w. dupl. KBo 17.68:2. ed. StBoT 29:124f. On the
 basis of Bo 4951, Ehelolf in OLZ 32:322f. corrected his earlier
 reading of the word as ^{GIŠ}·PA·-aḥ-hi-ša to ^{GIŠ}*pa-a*h-hi-ša.

^{GIŠ}*p.* in KBo 22.135 i 3 occurs in a rit. performed
 by a ^{LU}AZU “exorcist”; the other refs. occur in birth
 rituals. In view of the use of walh- elsewhere for
 playing percussion instruments, one should consider
 the possibility that *p.* was a noisemaker of some
 kind, made (partly?) of wood. Starke (StBoT 31:208)
 posits a Luwian stem *paḥhit-* and translates “Trom-
 mel” or “Gong.”

Sommer/Ehelolf, Pap. (1924) 76; Ehelolf, OLZ 32 (1929)
 322f.; Friedrich, HW (1952) 153 (“Stock(?), Gerte(?)”); Beck-
 man, StBoT 29 (1983) 122, 288 (tr. “stick(?)” employed only
 provisionally).

paḥḥeški- iter. v.; (a hostile action).†

Sum. [ḪAR] = Akk. [a-r]a-rum “to mill, grind”
 = Hitt. *ḫūwarzakiuwar* “repeated cursing” (tr. of
 Akk. *arāru* “to curse”) / Sum. [ḪAR] = (Akk.) [za]-
 a-u “resin(??)” = (Hitt.) *pa-aḥ-ḥe-eš-ki-u-wa-ar*
 “repeated ...-ing” (a hostile action) / (Sum.)
 [ḪAR] = (Akk.) ZA-a-rum = (Hitt.) *kurur appatar*
 “initiating hostilities” KBo 1.45 obv.! 2-4 (S^a vocab., NH),

Figure 17. Sample from Güterbock and Hoffner 1994 showing the DOUBLE HYPHEN distinguished from the HYPHEN as well as from the EQUALS SIGN.

dā- „nehmen“

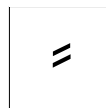
iššaz-šmit „aus ihrem Mund“ (StBoT 8 I 18’); *kiššaraz-šmet* „aus ihren Hän-
 den“ (StBoT 8 II 38); *ḫalmašwittaz* „vom Thronsessel“, *ḫaššaz* „vom Herd“
 (StBoT 8 II 39); ^{GIŠ}ŠŪ.A-*kaz-šmit* „von ihrem Sitz“, *kartaz-šmit* „aus ihrem
 Herzen“, [*tug*]*gaz-šmit* „aus ihrem Körper“ (KBo XVII 7 + = StBoT 8 Rs.IV?
 6’-7’); ^{GIŠ}BANŠUR-*az* „vom Tisch“ (KBo VI 2 II 44’ = HG I, § 47a);
 A.AB.BA-*az* „aus dem Meere“ (KBo XXII 2 Vs. 4); ^ḫ*halent^uaz* „aus dem
 ḫ.-Haus“ (KBo XVII 1 I 17’ = StBoT 12 I 33).

Figure 18. Sample from Starke 1977 showing the DOUBLE HYPHEN distinguished from the HYPHEN as well as from the EQUALS SIGN.

TABLE XX - Row 2C: COPTIC

	2C8	2C9	2CA	2CB	2CC
0	ⲁ	Ⲑ	ⲁ	ⲡ	
1	Ⲃ	Ⲓ	Ⲃ	ⲓ	
2	Ⲅ	Ⲕ	Ⲅ	ⲕ	
3	Ⲇ	Ⲗ	Ⲇ	ⲗ	
4	Ⲉ	Ⲙ	Ⲉ	ⲙ	
5	Ⲋ	Ⲛ	Ⲋ	ⲛ	
6	Ⲍ	Ⲝ	Ⲍ	ⲝ	
7	Ⲏ	Ⲟ	Ⲏ	ⲟ	
8	Ⲑ	Ⲡ	Ⲑ	ⲡ	
9	Ⲓ	Ⲣ	Ⲓ	ⲣ	
A	Ⲕ	Ⲥ	Ⲕ	ⲥ	
B	Ⲇ		Ⲇ	ⲇ	
C	Ⲉ		Ⲉ	ⲉ	
D	Ⲋ		Ⲋ	ⲋ	
E	ⲍ		ⲍ		Ⲏ
F	ⲏ		ⲏ		Ⲑ

2055



G = 00
P = 00

TABLE XX - Row 2C: COPTIC

hex	Name	hex	Name
80	COPTIC CAPITAL LETTER ALFA	2055	DOUBLE HYPHEN
81	COPTIC CAPITAL LETTER VIDA		
82	COPTIC CAPITAL LETTER GAMMA		
83	COPTIC CAPITAL LETTER DALDA		
84	COPTIC CAPITAL LETTER EIE		
85	COPTIC CAPITAL LETTER SOU		
86	COPTIC CAPITAL LETTER ZATA		
87	COPTIC CAPITAL LETTER HATE		
88	COPTIC CAPITAL LETTER THETHE		
89	COPTIC CAPITAL LETTER IAUDA		
8A	COPTIC CAPITAL LETTER KAPA		
8B	COPTIC CAPITAL LETTER LAULA		
8C	COPTIC CAPITAL LETTER MI		
8D	COPTIC CAPITAL LETTER NI		
8E	COPTIC CAPITAL LETTER KSI		
8F	COPTIC CAPITAL LETTER O		
90	COPTIC CAPITAL LETTER PI		
91	COPTIC CAPITAL LETTER RO		
92	COPTIC CAPITAL LETTER SIMA		
93	COPTIC CAPITAL LETTER TAU		
94	COPTIC CAPITAL LETTER UA		
95	COPTIC CAPITAL LETTER FI		
96	COPTIC CAPITAL LETTER KHI		
97	COPTIC CAPITAL LETTER PSI		
98	COPTIC CAPITAL LETTER OOU		
99	COPTIC CAPITAL LETTER AKHMIMIC KHEI		
9A	COPTIC CAPITAL LETTER RO WITH STROKE		
9B	(This position shall not be used)		
9C	(This position shall not be used)		
9D	(This position shall not be used)		
9E	(This position shall not be used)		
9F	(This position shall not be used)		
A0	COPTIC SMALL LETTER ALFA		
A1	COPTIC SMALL LETTER VIDA		
A2	COPTIC SMALL LETTER GAMMA		
A3	COPTIC SMALL LETTER DALDA		
A4	COPTIC SMALL LETTER EIE		
A5	COPTIC SMALL LETTER SOU		
A6	COPTIC SMALL LETTER ZATA		
A7	COPTIC SMALL LETTER HATE		
A8	COPTIC SMALL LETTER THETHE		
A9	COPTIC SMALL LETTER IAUDA		
AA	COPTIC SMALL LETTER KAPA		
AB	COPTIC SMALL LETTER LAULA		
AC	COPTIC SMALL LETTER MI		
AD	COPTIC SMALL LETTER NI		
AE	COPTIC SMALL LETTER KSI		
AF	COPTIC SMALL LETTER O		
B0	COPTIC SMALL LETTER PI		
B1	COPTIC SMALL LETTER RO		
B2	COPTIC SMALL LETTER SIMA		
B3	COPTIC SMALL LETTER TAU		
B4	COPTIC SMALL LETTER UA		
B5	COPTIC SMALL LETTER FI		
B6	COPTIC SMALL LETTER KHI		
B7	COPTIC SMALL LETTER PSI		
B8	COPTIC SMALL LETTER OOU		
B9	COPTIC SMALL LETTER AKHMIMIC KHEI		
BA	COPTIC SMALL LETTER RO WITH STROKE		
BB	COPTIC SYMBOL MI RO		
BC	COPTIC SYMBOL KHI RO		
BD	COPTIC SYMBOL KHRISTOS		
BE	(This position shall not be used)		
BF	(This position shall not be used)		
C0	(This position shall not be used)		
C1	(This position shall not be used)		
C2	(This position shall not be used)		
C3	(This position shall not be used)		
C4	(This position shall not be used)		
C5	(This position shall not be used)		
C6	(This position shall not be used)		
C7	(This position shall not be used)		
C8	(This position shall not be used)		
C9	(This position shall not be used)		
CA	(This position shall not be used)		
CB	(This position shall not be used)		
CC	(This position shall not be used)		
CD	(This position shall not be used)		
CE	COPTIC FULL STOP		
CF	COPTIC FRACTION ONE HALF		