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Title: Proposal to encode the Palaeohispanic script

1. Summary

The Palaeohispanic script is not a single script but a group of different writing systems that belong to the same family. We encode them together since all these scripts share a similar corpus of signs along with some characteristic features, the most notorious being the coexistence of alphabetic and syllabic characters. Moreover, all of them share a common ancestor, which might ultimately arise from the Phoenician alphabet (see figure 11).

The Palaeohispanic script family consists at least of 5 different scripts attested in the Iberian Peninsula by *ca.* 2,700 inscriptions dating from the 7th century BC to the 1st century AD. Although the longest inscription contains *ca.* 500 words, most long texts rarely reach over 50 words; others, on the other hand, are very short and contain just a personal name or abbreviations.

The scripts that belong to this family can be divided into 2 types: the northern (with *ca.* 2,500 inscriptions) and the southern group (with *ca.* 170 inscriptions). The first one comprises the north-eastern Iberian and the Celtiberian scripts. The southern group, in its turn, comprises the south-eastern Iberian and the south-western or Tartessian scripts, and the Espanca abecedary, found in the same area where the south-western or Tartessian script is attested. Nevertheless, this abecedary does not exactly match the Tartessian script or the south-eastern Iberian script. **These scripts were used to write at least three different local languages: Celtiberian, Iberian, and the south-western or Tartessian language.**

The decipherment of the northern Palaeohispanic scripts was accomplished at the beginning of the 20th century by Manuel Gómez-Moreno (1922, 1949). Nevertheless, some aspects were not entirely deciphered until very recent dates. Such is the case of a variant of this script called *the dual system*, which consists of the use of signs with two variants, each of them with its own distinctive value, differing from each other in presenting an additional stroke (e. g. $\text{X} = \text{da}$ and $\text{X} = \text{ta}$). In fact, some concrete features of this system are even still undergoing research. Unlike the northern scripts, the southern scripts have not been fully deciphered, since there are many signs for which there is no agreed value among specialists. The non-deciphered characters will be named in this proposal after an arbitrary code, as it is currently in use in the specialized bibliography.

The Palaeohispanic inscriptions are being edited and digitalized in the Hesperia open access database (<http://hesperia.ucm.es/>), in the framework of a research project carried out by a team of scholars from different Spanish universities.

2. Background

This proposal represents a unification of two earlier proposals: "L2/15-120-Preliminary proposal to encode the north-eastern Iberian script" and "L2/15-119 Preliminary proposal to encode the southern Palaeohispanic scripts".

With the proposed repertoire, all characters in Northeastern, Celtiberian, Southeastern, Southwestern and Espanca's scripts can be represented. As with Old Italic, fonts will be used to represent the different alphabets of Iberia (see the tables below).

The earlier proposals, L2/15-120 and L2/15-119, contain detailed discussion on the characters, figures, and references. See also the article J. Ferrer, N. Moncunill, J. Velaza, "Toward a systematisation of Palaeohispanic scripts in Unicode: synthesising multiple transcription hypotheses into two consensus encodings", *Palaeohispanica* 15, 2015, pp. 13-55.

3. Structure

All Palaeohispanic scripts are semisyllabic: vowels, nasals, laterals, sibilants and trills are alphabetical, whereas characters for plosives are syllabic.

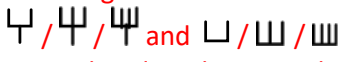






There is another feature shared by most Palaeohispanic scripts: the possibility they offer to differentiate some similar signs with close phonetic value by an additional stroke; rather than a mere diacritic (although originally it might have been so), this stroke tends to be an integrating component of the sign itself. This subset of scripts with a larger number of variants has been labelled as "dual". The recent discovery of dual abecedaries confirms that these dualities were integrated in the standard scripts, where the pair of signs appears always in the same order: the complex variant, with its additional stroke, in the first place and, thereafter, the simple one.



These dualities can affect different sets of sounds: plosives, continuous consonants and even vowels. However, and despite their autonomous apparition in the abecedaries, only for the first ones the phonetic opposition (in this case, voiced – voiceless) between the simple and the complex has been confirmed. Therefore, according to the extension of the use of dualities, it is possible to identify different subsets within every script:

- The north-eastern Iberian script can be divided into: i. extended dual, when dualities affect plosives, continuous consonants and vowels; ii. standard dual, when it only affects plosives, and iii. non-dual, when the script lacks dualities.
- The Celtiberian script, either in its eastern or western variant, can be divided into: i. standard dual, or ii. non-dual.
- The south-eastern Iberian, according to the current available documentation, seems to be always dual, with dualities for both plosives and continuous consonants.
- The south-western script and the script represented by the Espanca abecedyary are clearly non-dual.

The standard script for Unicode has been built taking into account an inventory of signs as large as possible, including all dual variants confirmed in the extant abecedaries; in general terms, the glyphs for the proposed characters to be encoded match the glyphs of the north-eastern Iberian dual extended script.

In addition, the Unicode repertoire also considers as meaningful a three-elements variability for the signs **ke** and **ka** in the standard or extended dual script: $\mathbb{C}/\mathbb{C}/\mathbb{C}$ and $\mathbb{A}/\mathbb{A}/\mathbb{A}$. Indeed, some long standard dual inscriptions show the simultaneous use of three variants of the **ke** sign. That's the case of the lead sheet from Castelló (F.6.1) where two-stroke **ke** (\mathbb{C}) coexist with one-stroke (\mathbb{C}) and no-marked variants (\mathbb{C}). In a similar way, on the lead sheet from Ensérune (B.1.373*; Hesperia HER.02.773) a two-dot variant of the **ke** sign (\mathbb{C}), coexists with a one-dot (\mathbb{C}) and a no-marked variant (\mathbb{C}). Furthermore, it needs to be pointed out that the most common word in the lead sheet from Castelló with the two-stroke **ke**, **balke**, was written in this same way in painted inscriptions of the extended dual type from Llíria. This behavior can also be observed in the lead sheet from Los Villares (F.17.2) where three simultaneous variants of the **ka** sign are used ($\mathbb{A}/\mathbb{A}/\mathbb{A}$). This suggests that the three-element variation for these two characters is also a characteristic of the extended dual script, although it is not explicitly documented in any of the known abecedaries.

Although this three-elements variation has not been confirmed to be meaningful for the rest of characters, our proposal also includes three different glyphs for **ti** and **to**: . In this case, this choice is not due to linguistic but rather technical reasons related to the Unicode codification. That way, the most common dual opposition found in Palaeohispanic inscriptions, which is expressed as  and , and the less common dual opposition expressed as  and , can be both easily codified, avoiding overlapping solutions for the shared characters  and .


As for other characters which can also display a more than two elements variation, such as  and  the glyphs with more than one additional stroke have not been encoded separately, since they can be considered in most cases as an allograph of the glyph with only one additional bar and the conflictive cases are very scarce.

4. Direction of script

The proposed default direction of the script is left to right, which is the predominant direction in inscriptions of the northern group. In order to render texts right to left, users should use RLO and PDF overrides, or other mechanisms as described in UAX #9 (<http://www.unicode.org/reports/tr9/proposed.html>). If the default direction of the script is overridden, the glyphs in the font should be mirrored from those presented here.

5. Character names


The character names are based by default on the north-eastern script, which is the script with more inscriptions and the one whose decipherment is completed. However, since the values are not usually the same in each Palaeohispanic script, notes are used to specify the value of the character in every script. For instance:

1020B  PALAEOHISPANIC LETTER BE
 = R1 in Southeastern Iberian
 = R2 in Southwestern Palaeohispanic
 = S52 in Espanca's script

The lack of notes implies that the sign has the same value in all scripts. For instance:

10227  PALAEOHISPANIC LETTER N1


When a sign is exclusive of one single script it is specified that way:

1020D  PALAEOHISPANIC LETTER BO
 • Northern Palaeohispanic

The marked signs in the "dual" scripts are named with the terminology "with one additional stroke" or "with two additional strokes". For instance:


10202  PALAEOHISPANIC LETTER E WITH ONE ADDITIONAL STROKE

- Northeastern Iberian (Dual Extended)

10237  PALAEOHISPANIC LETTER KA WITH TWO ADDITIONAL STROKES

- Northeastern Iberian (Dual)

When the phonetic value of a sign is unknown, we use the conventional code used in the specialized bibliography. For instance:

10214  PALAEOHISPANIC LETTER KI

= S45.2 in Southern Palaeohispanic

Please note that the names of the letters don't always reflect the transcription system used in the discursive parts of the proposal. These are the correspondences:

S1 = **s**

S2 = **ś**

S1 WITH ONE ADDITIONAL STROKE = **ŝ**

S2 WITH ONE ADDITIONAL STROKE = **š**

N1 = **n**

N1 WITH ONE ADDITIONAL STROKE = **ń**

N2 = **m**

N3 = **ṃ**

N4 = **ṁ**

R1 = **r**

R2 = R1 WITH ONE ADDITIONAL STROKE = **ř**

R2 WITH ONE ADDITIONAL STROKE = **ř̇**

A = **a**

A WITH ONE ADDITIONAL STROKE = **á**

A2 = **â**

E = **e**

E WITH ONE ADDITIONAL STROKE = **é**

I = **i**

I WITH ONE ADDITIONAL STROKE = **í**

O = **o**

O WITH ONE ADDITIONAL STROKE = **ó**

U = **u**

U WITH ONE ADDITIONAL STROKE = **ú**

KA = **ga**

KA WITH ONE ADDITIONAL STROKE = **ka**

KA WITH TWO ADDITIONAL STROKES = **ká**

KE = **ge**

KE WITH ONE ADDITIONAL STROKE = **ke**
KE WITH TWO ADDITIONAL STROKES = **ké**
KI = **gi**
KI WITH ONE ADDITIONAL STROKE = **ki**
KO = **go**
KO WITH ONE ADDITIONAL STROKE = **ko**
KU = **gu**
KU WITH ONE ADDITIONAL STROKE = **ku**

TI WITHOUT INNER STROKE = di

TO WITHOUT INNER STROKE = do

6. Numbers

Iberian metrological expressions are basically formed by groups of vertical bars (equivalent to the sign **ba**) to generate the numerical component of the expression: I = 1, II = 2, III = 3, IIII = 4, IIIII = 5. The accumulation of bars can reach up to 20 elements (F.17.1). Occasionally these bars can appear together with a sign similar to Greek **π**, which appears to be acting as an auxiliary base, perhaps with the value of 5 or 6.

Some metrological expressions use a specific L-shaped sign, which does not match any other character of the Iberian script; the numerical value for that sign is still uncertain. This sign also appears in metrological expressions on painted amphora inscriptions from Vieille-Toulouse (for instance **L IIII**) and in lead-sheet inscriptions from Iàtova (for instance **L π IIIII** [F.20.2]).

Finally, some coin inscriptions present value marks, which, in some cases, have an equivalent symbol formed by the initial of the unit followed by the numerical component. In the case of **undikesken** coins, quarters show the – sign and halves the = sign, which is actually a reduplication of the former ($\frac{1}{4} + \frac{1}{4} = \frac{1}{2}$).

7. Punctuation

The most common word separator consists of two vertical dots. Nevertheless, the oldest epigraphic tradition tends to use rather 3 or more vertical dots; in the most recent inscriptions on stone, on the other hand, the use of an isolated dot is frequent, imitating the Roman style. Finally, the vertical bar can also be used and, in some rare cases, just a blank.

Since all these word separators can be found in other scripts, to represent the Palaeohispanic punctuation we recommend already-encoded characters to be employed:

007C VERTICAL LINE
00B7 MIDDLE DOT
205A TWO DOT PUNCTUATION
205D TRICOLON
205E VERTICAL FOUR DOTS

8. Order

For the code chart: vowels will appear in the alphabetical order **a, e, i, o, u**; plosives in the usual alphabetical order **b, k/g, t/d**; and continuous consonants in the alphabetical order **l, m, n, r, s**. The marked-sign pairs will be grouped together, the marked character preceding the unmarked, as appears in the north-eastern Iberian abecedaries. The conflictive T-shaped sign is grouped together with nasals, as it actually appears in the attested abecedaries. The conflictive sign in the shape of an Iberian l (â) with an additional stroke is placed together with this sign, as it appears in the Castellet de Bernabé abecedary. **The exceptional cases of glyphs which have been codified considering a three-elements variation, i.e. ka and ke with two additional strokes, and ti and to without the inner bar will appear at the end.** Numerals are grouped in a new column after letters.

The proposed order for sorting is as follows: **a, á, â, ba, be, bi, bo, bu, da, ta, de, te, di, ti, do, to, du, tu, e, é, ga, ka, ka, ge, ke, ke, gi, ki, go, ko, gu, ku, i, í, l, m, n, o, ó, r, r, ř, s, š, s, š, u, ú, m̄, m̄**. Specific exceptions to the alphabetical order are as follows:

- Consecutive order for simple sibilant (**s**) and sibilant with an additional stroke (**š**);
- Consecutive order for voiceless and voiced plosives in order to keep together the dual and non-dual transcriptions of the same elements (for instance, the word **ekiar / egiar**).
- Consecutive order for **m** and **n**, since they are signs that can alternate (for instance **iunstir / iumstir**).
- Consecutive order for the supposed nasal **m̄** and **m̄**, after the two signs for **u**, since the characteristic vocalic component of **m̄** can be usually identified as **u** (for instance **m̄bař / VMAR**).

9. Unicode Character Properties

All the Palaeohispanic letters from 10200 to 10238 are as below.

10200;PALAEOHISPANIC LETTER A WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;N;;;;;

10201;PALAEOHISPANIC LETTER A;Lo;0;L;;;;N;;;;;

10202;PALAEOHISPANIC LETTER E WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;N;;;;;

10203;PALAEOHISPANIC LETTER E;Lo;0;L;;;;N;;;;;

10204;PALAEOHISPANIC LETTER I WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;N;;;;;

10205;PALAEOHISPANIC LETTER I;Lo;0;L;;;;N;;;;;

10206;PALAEOHISPANIC LETTER O WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;N;;;;;

10207;PALAEOHISPANIC LETTER O;Lo;0;L;;;;N;;;;;

10208;PALAEOHISPANIC LETTER U WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;N;;;;;

10209;PALAEOHISPANIC LETTER U;Lo;0;L;;;;N;;;;;

1020A;PALAEOHISPANIC LETTER BA;Lo;0;L;;;;N;;;;;

1020B;PALAEOHISPANIC LETTER BE;Lo;0;L;;;;N;;;;;

1020C;PALAEOHISPANIC LETTER BI;Lo;0;L;;;;N;;;;;

1020D;PALAEOHISPANIC LETTER BO;Lo;0;L;;;;N;;;;;

1020E;PALAEOHISPANIC LETTER BU;Lo;0;L;;;;;N;;;;;
1020F;PALAEOHISPANIC LETTER KA WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;;N;;;;;
10210;PALAEOHISPANIC LETTER KA;Lo;0;L;;;;;N;;;;;
10211;PALAEOHISPANIC LETTER KE WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;;N;;;;;
10212;PALAEOHISPANIC LETTER KE;Lo;0;L;;;;;N;;;;;
10213;PALAEOHISPANIC LETTER KI WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;;N;;;;;
10214;PALAEOHISPANIC LETTER KI;Lo;0;L;;;;;N;;;;;
10215;PALAEOHISPANIC LETTER KO WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;;N;;;;;
10216;PALAEOHISPANIC LETTER KO;Lo;0;L;;;;;N;;;;;
10217;PALAEOHISPANIC LETTER KU WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;;N;;;;;
10218;PALAEOHISPANIC LETTER KU;Lo;0;L;;;;;N;;;;;
10219;PALAEOHISPANIC LETTER TA WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;;N;;;;;
1021A;PALAEOHISPANIC LETTER TA;Lo;0;L;;;;;N;;;;;
1021B;PALAEOHISPANIC LETTER TE WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;;N;;;;;
1021C;PALAEOHISPANIC LETTER TE;Lo;0;L;;;;;N;;;;;
1021D;PALAEOHISPANIC LETTER TI WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;;N;;;;;
1021E;PALAEOHISPANIC LETTER TI;Lo;0;L;;;;;N;;;;;
1021F;PALAEOHISPANIC LETTER TO WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;;N;;;;;
10220;PALAEOHISPANIC LETTER TO;Lo;0;L;;;;;N;;;;;
10221;PALAEOHISPANIC LETTER TU WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;;N;;;;;
10222;PALAEOHISPANIC LETTER TU;Lo;0;L;;;;;N;;;;;
10223;PALAEOHISPANIC LETTER L;Lo;0;L;;;;;N;;;;;
10224;PALAEOHISPANIC LETTER A2;Lo;0;L;;;;;N;;;;;
10225;PALAEOHISPANIC LETTER N2;Lo;0;L;;;;;N;;;;;
10226;PALAEOHISPANIC LETTER N1 WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;;N;;;;;
10227;PALAEOHISPANIC LETTER N1;Lo;0;L;;;;;N;;;;;
10228;PALAEOHISPANIC LETTER N3;Lo;0;L;;;;;N;;;;;
10229;PALAEOHISPANIC LETTER N4;Lo;0;L;;;;;N;;;;;
1022A;PALAEOHISPANIC LETTER COMPEX R1;Lo;0;L;;;;;N;;;;;
1022B;PALAEOHISPANIC LETTER R1;Lo;0;L;;;;;N;;;;;
1022C;PALAEOHISPANIC LETTER R2 WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;;N;;;;;

1022D;PALAEOHISPANIC LETTER R2;Lo;0;L;;;;N;;;;;

1022E;PALAEOHISPANIC LETTER S1 WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;N;;;;;

1022D;PALAEOHISPANIC LETTER R2;Lo;0;L;;;;N;;;;;

1022E;PALAEOHISPANIC LETTER S1 WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;N;;;;;

1022F;PALAEOHISPANIC LETTER S1;Lo;0;L;;;;N;;;;;

10230;PALAEOHISPANIC LETTER S3;Lo;0;L;;;;N;;;;;

10231;PALAEOHISPANIC LETTER S2 WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;N;;;;;

10232;PALAEOHISPANIC LETTER S2;Lo;0;L;;;;N;;;;;

10233;PALAEOHISPANIC LETTER BU2;Lo;0;L;;;;N;;;;;

10234;PALAEOHISPANIC LETTER KU2;Lo;0;L;;;;N;;;;;

10235;PALAEOHISPANIC LETTER TO2;Lo;0;L;;;;N;;;;;

10236;PALAEOHISPANIC LETTER S87;Lo;0;L;;;;N;;;;;

10237;PALAEOHISPANIC LETTER KA WITH ONE ADDITIONAL STROKE;Lo;0;L;;;;N;;;;;

10238;PALAEOHISPANIC LETTER KE WITH TWO ADDITIONAL STROKES;Lo;0;L;;;;N;;;;;

10239;PALAEOHISPANIC LETTER TI WITHOUT INNER STROKE;Lo;0;L;;;;N;;;;;

10239;PALAEOHISPANIC LETTER TO WITHOUT INNER STROKE;Lo;0;L;;;;N;;;;;

All the Palaeohispanic numerals and fractions from 10240 to 10244 are as below.

10240;PALAEOHISPANIC NUMERAL ONE;No;0;L;;;;1;N;;;;;

10241;PALAEOHISPANIC NUMERAL A;No;0;L;;;;N;;;;;

10242;PALAEOHISPANIC NUMERAL B;No;0;L;;;;N;;;;;


10243;PALAEOHISPANIC FRACTION ONE QUARTER;No;0;L;;;;1/4;N;;;;;

10244;PALAEOHISPANIC FRACTION ONE HALF;No;0;L;;;;1/2;N;;;;;


c	1020		1021		1022		1023		1024	
0		A WITH ONE ADDITIONAL STROKE		KA		TO		S3		ONE
1		A		KE WITH ONE ADDITIONAL STROKE		TU WITH ONE ADDITIONAL STROKE		S2 WITH ONE ADDITIONAL STROKE		A
2		E WITH ONE ADDITIONAL STROKE		KE		TU		S2		B


3		E		KI WITH ONE ADDITIONAL STROKE		L		BU2	—	ONE QUARTER
4		I WITH ONE ADDITIONAL STROKE		KI		A2		KU2	=	ONE HALF
5		I		KO WITH ONE ADDITIONAL STROKE		N2		TO2		
6		O WITH ONE ADDITIONAL STROKE		KO		N1 WITH ONE ADDITIONAL STROKE		S87		
7		O		KU WITH ONE ADDITIONAL STROKE		N1		KA WITH TWO ADDITIONAL STROKES		
8		U WITH ONE ADDITIONAL STROKE		KU		N3		KE WITH TWO ADDITIONAL STROKES		
9		U		TA WITH ONE ADDITIONAL STROKE		N4		TI WITHOUT INNER STROKE		
A		BA		TA		R1 WITH ONE ADDITIONAL STROKE		TI TO WITHOUT INNER STROKE		
B		BE		TE WITH ONE ADDITIONAL STROKE		R1				
C		BI		TE		R2 WITH ONE ADDITIONAL STROKE				
D		BO		TI WITH ONE ADDITIONAL STROKE		R2				
E		BU		TI		S1 WITH ONE ADDITIONAL STROKE				
F		KA WITH ONE ADDITIONAL STROKE		TO WITH ONE ADDITIONAL STROKE		S1				

10. Proposed Characters


10200  PALAEOHISPANIC LETTER A WITH ONE ADDITIONAL STROKE


- Northeastern Iberian (Dual extended)

10201  PALAEOHISPANIC LETTER A
= S81 in southern Palaeohispanic

10202  PALAEOHISPANIC LETTER E WITH ONE ADDITIONAL STROKE


- Northeastern Iberian (Dual extended)

10203  PALAEOHISPANIC LETTER E
= be in Southeastern Iberian
= S41 in Southwestern Palaeohispanic and Espanca

10204  PALAEOHISPANIC LETTER I WITH ONE ADDITIONAL STROKE

- Northeastern Iberian (Dual extended)

10205  PALAEOHISPANIC LETTER I


10206  PALAEOHISPANIC LETTER O WITH ONE ADDITIONAL STROKE

= de in Southeastern Iberian

10207  PALAEOHISPANIC LETTER O

= te in Southeastern Iberian

= te/de in Southwestern Palaeohispanic and Espanca

10208  PALAEOHISPANIC LETTER U WITH ONE ADDITIONAL STROKE

- Northeastern Iberian (Dual extended)

10209  PALAEOHISPANIC LETTER U

= bi in Southeastern Iberian

= pi/bi in Southwestern Palaeohispanic and Espanca

1020A  PALAEOHISPANIC LETTER BA

= S42 in Southeastern Iberian

= pa/ba in Southwestern Palaeohispanic and Espanca

1020B  PALAEOHISPANIC LETTER BE

= R1 in Southeastern Iberian

= R2 in Southwestern Palaeohispanic

= S52 in Espanca's script

1020C  PALAEOHISPANIC LETTER BI

= ba in Southeastern Iberian

= pe/be in Southwestern Palaeohispanic and Espanca


1020D  PALAEOHISPANIC LETTER BO

- Northern Palaeohispanic


1020E  PALAEOHISPANIC LETTER BU

= bo in Southeastern Iberian


= po/bo in Southwestern Palaeohispanic and Espanca













1020F  PALAEOHISPANIC LETTER KA WITH ONE ADDITIONAL STROKE














10210  PALAEOHISPANIC LETTER KA


10211  PALAEOHISPANIC LETTER KE WITH ONE ADDITIONAL STROKE


10212  PALAEOHISPANIC LETTER KE

10213  PALAEOHISPANIC LETTER KI WITH ONE ADDITIONAL STROKE


- = S45.4 in Southeastern Iberian
- 10214  PALAEOHISPANIC LETTER KI
= S45.2 in Southern Palaeohispanic
- 10215  PALAEOHISPANIC LETTER KO WITH ONE ADDITIONAL STROKE
- 10216  PALAEOHISPANIC LETTER KO
- 10217  PALAEOHISPANIC LETTER KU WITH ONE ADDITIONAL STROKE
- Northern Palaeohispanic
- 10218  PALAEOHISPANIC LETTER KU
= e in Southern Palaeohispanic
- 10219  PALAEOHISPANIC LETTER TA WITH ONE ADDITIONAL STROKE
- 1021A  PALAEOHISPANIC LETTER TA
- 1021B  PALAEOHISPANIC LETTER TE WITH ONE ADDITIONAL STROKE
= di in Southeastern Iberian
- 1021C  PALAEOHISPANIC LETTER TE
= ti in Southeastern Iberian
= ti/di in Southwestern Palaeohispanic and Espanca
- 1021D  PALAEOHISPANIC LETTER TI WITH ONE ADDITIONAL STROKE
- Northern Palaeohispanic (Dual)
- 1021E  PALAEOHISPANIC LETTER TI
= S48 in Southern Palaeohispanic
- 1021F  PALAEOHISPANIC LETTER TO WITH ONE ADDITIONAL STROKE
- Northern Palaeohispanic (Dual)


- 10220  PALAEOHISPANIC LETTER TO
- Northern Palaeohispanic
- 10221  PALAEOHISPANIC LETTER TU WITH ONE ADDITIONAL STROKE
- 10222  PALAEOHISPANIC LETTER TU
- 10223  PALAEOHISPANIC LETTER L
- 10224  PALAEOHISPANIC LETTER A2
= a in Southern Palaeohispanic
- 10225  PALAEOHISPANIC LETTER N2
= S83 in Southwestern Palaeohispanic
- 10226  PALAEOHISPANIC LETTER N1 WITH ONE ADDITIONAL STROKE
- 10227  PALAEOHISPANIC LETTER N1
- 10228  PALAEOHISPANIC LETTER N3
= u in Southern Palaeohispanic
- 10229  PALAEOHISPANIC LETTER N4
= o in Southern Palaeohispanic
- 1022A  PALAEOHISPANIC LETTER R1 WITH ONE ADDITIONAL STROKE
- Southeastern Iberian (R2)
- 1022B  PALAEOHISPANIC LETTER R1
= R2 WITH ONE ADDITIONAL STROKE in Southeastern Iberian
= S50 or R1 in Espanca's script
- 1022C  PALAEOHISPANIC LETTER R2 WITH ONE ADDITIONAL STROKE
= gi in Southeastern Iberian


1022D  PALAEOHISPANIC LETTER R2
= ki in Southeastern Iberian
= ki/gi in Southwestern Palaeohispanic and Espanca

1022E  PALAEOHISPANIC LETTER S1 WITH ONE ADDITIONAL STROKE


- Northeastern Iberian (Dual extended)


1022F  PALAEOHISPANIC LETTER S1
= S80 in Southwestern Palaeohispanic
= S51 or S80 in Espanca's script


10230  PALAEOHISPANIC LETTER S3
• Southern Palaeohispanic

10231  PALAEOHISPANIC LETTER S2 WITH ONE ADDITIONAL STROKE
• Southeastern Iberian

10232  PALAEOHISPANIC LETTER S2


10233  PALAEOHISPANIC LETTER BU2
• Southern Palaeohispanic
= bu in Southeastern Iberian

10234  PALAEOHISPANIC LETTER KU2
• Southern Palaeohispanic


10235  PALAEOHISPANIC LETTER TO2
• Southwestern Palaeohispanic

10236  PALAEOHISPANIC LETTER S87


= S92 Southwestern Palaeohispanic

10237  PALAEOHISPANIC LETTER KA WITH TWO ADDITIONAL STROKES


- Northeastern Iberian (Dual)

10238  PALAEOHISPANIC LETTER KE WITH TWO ADDITIONAL STROKES

- Northeastern Iberian (Dual)


10239  PALAEOHISPANIC LETTER TI WITHOUT INNER STROKE


- Northern Palaeohispanic (Dual)


1023A  PALAEOHISPANIC LETTER TO WITHOUT INNER STROKE

- Northern Palaeohispanic (Dual)


10240  PALAEOHISPANIC NUMERAL ONE

10241  PALAEOHISPANIC NUMERAL A
• Northeastern Iberian

10242  PALAEOHISPANIC NUMERAL B
• Northeastern Iberian

10243  PALAEOHISPANIC FRACTION ONE QUARTER

- Northeastern Iberian

10244  PALAEOHISPANIC FRACTION ONE HALF

- Northeastern Iberian

11. Acknowledgement

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253360-17), which funds the Universal Scripts Project (part of the Script Encoding Initiative at the University of California, Berkeley). Any views, findings, conclusions or recommendations expressed in this publication do not necessarily reflect those of the National Endowment for the Humanities.

12. Figures.

	1020		1021		1022		1023		1024	
0			Λ	ka/ ga	∩	to/ do				numera l 1
1	▷	a							L	numera l-A
2			<	ke/ ge	△	tu/ du	M	ś	□	numera l-B
3	⚡	e			Λ	l			—	1/4
4			↵	ki/ gi					=	1/2
5	∞	i			∇	m				
6			⊗	ko/ go			⇓	S87		
7	H	o	◊	ku/ gu	∞	n				
8					∇	ń				
9	↑	u			T	ň				
A		ba	X	ta/ da						
B	◊	be			◁	r				
C	⌈	bi	◊	te/ de						
D	✱	bo			◊	ř				
E	□	bu	∇	ti/ di						
F		k			Σ	s				

Figure 1: Character repertoire of the North-eastern Iberian non dual script

	1020		1021		1022		1023		1024	
0	𐌲	a	𐌱	ga	𐌳	do			𐌱	nume ral 1
1			𐌲	ke	𐌴	tu			𐌲	nume ral-A
2	𐌴	e	𐌲	ge	𐌴	du	𐌴	ś	𐌲	nume ral-B
3			𐌲	ki	𐌲	l			—	1/4
4			𐌲	gi					=	1/2
5	𐌴	i	𐌲	ko	𐌴	m				
6			𐌲	go			𐌴	S87		
7	𐌲	o	𐌲	ku	𐌴	n	𐌴	ka		
8			𐌲	gu	𐌴	ń	𐌲	ke		
9	𐌲	u	𐌲	ta	𐌴	ň	𐌴	di		
A	𐌲	ba	𐌲	da			𐌴	da		
B	𐌲	be	𐌲	te	𐌴	r				
C	𐌲	bi	𐌲	de	𐌴	ř				
D	𐌲	bo	𐌲	ti	𐌴	ř				
E	𐌲	bu	𐌲	di	𐌴	s				
F	𐌲	ka	𐌲	to						

Figure 2: Character repertoire of the north-eastern Iberian dual standard script

	1020		1021		1022		1023		1024	
0	𐌲	á	𐌱	ga	𐌳	do			𐌱	numeral 1
1	𐌳	a	𐌲	ke	𐌴	tu			𐌲	numeral-A
2	𐌴	é	𐌲	ge	𐌴	du	𐌴	ś	𐌲	numeral-B
3	𐌴	e	𐌴	ki	𐌴	l			—	1/4
4	𐌴	í	𐌴	gi	𐌴	â			=	1/2
5	𐌴	i	𐌴	ko	𐌴	m				
6	𐌴	ó	𐌴	go	𐌴	ń	𐌴	S87		
7	𐌴	o	𐌴	ku	𐌴	n	𐌴	ka		
8	𐌴	ú	𐌴	gu	𐌴	m	𐌴	ke		
9	𐌴	u	𐌴	ta	𐌴	ř	𐌴	di		
A	𐌴	ba	𐌴	da			𐌴	do		
B	𐌴	be	𐌴	te	𐌴	r				
C	𐌴	bi	𐌴	de	𐌴	ř				
D	𐌴	bo	𐌴	ti	𐌴	ř				
E	𐌴	bu	𐌴	di	𐌴	ś				
F	𐌴	ka	𐌴	to	𐌴	s				

Fig. 3: Character repertoire of the north-eastern Iberian dual extended script.

c	1020		1021		1022		1023		1024	
0				ka				s		numeral 1
1		S81		ge		du		š		
2				ke		tu		ś		
3		be		S45.4		l		bu		
4				S45.2		a		ku		
5		i		go						
6		de		ko		ń				
7		te				n				
8				e		u				
9		bi		da		o				
A		S42		ta		ř				
B		r		di		ř				
C		ba		ti		gi				
D						ki				
E		bo		S48						
F		ga								

Figure 4: Character repertoire of the south-eastern Iberian dual

	1020		1021		1022		1023	
0			△	ka/ga			≡	s
1	D	S81						
2	≡	S41	∫	ke/ge	△	tu/du	M	ś
3					↑	l	≡	pu/bu
4			↶	S45.2	△	a	⊗	ku/gu
5	Z	i			↑	S83	△	to/do
6	≡	te/de	⊗	ko/go			Y	S92
7					Z	n		
8			○	e	≡	u		
9	↑	pi/bi			≡	o		
A	≡	pa/ba	X	ta/da				
B	W	ř			P	r		
C	⊙	pe/be	⊙	ti/di	⊙	ki/gi		
D								
E	□	po/bo						
F					M	S80		

Figure 5: Character repertoire of the south-western script

c	1020		1021		1022		1023	
0			△	ka/ga			≠	s
1								
2	≡	S41	∫	ke/ge	△	tu/du	M	ś
3					↑	l		
4			↵	S45.2	△	a		
5	≡	i						
6	≡	te/de	⊗	ko/go				
7					≡	n		
8			o	e	≡	u		
9	↑	pi/bi			≠	o		
A	↘	pa/ba	X	ta/da				
B	⊕	ř/S52			⊕	r/S50		
C	⊕	pe/be	⊕	ti/di				
D					o	ki/gi		
E	∏	po/bo	∫	S48				
F					∫	S51/ S80		

Fig. 6: character repertoire of the Espanca script

	1020		1021		1022		1023		1024	
0	P	a	Λ	ga	▬▬	to				nume ral 1
1			G	ke	△	tu				
2	≡	e	C	ge	↑	du	M	s		
3			≡	ki	┆	l				
4			┆	gi						
5	≡	i	⊗	ko						
6			⊗	go						
7	H	o	○	ku	N	m				
8			○	gu	V	n				
9	↑	u	✱	ta	T	¿?	▬	di		
A		ba	X	da			▬	do		
B	w	be	⊗	te						
C	P	bi	○	de	φ	r				
D	✱	bo								
E	□	bu	▬	i	z	z				
F	Λ	ka								

Fig. 7: character repertoire of the western Celtiberian dual script

	1020		1021		1022		1023		1024	
0	𐌲	a	𐌲	ka/g a	𐌷	to/ do			𐌱	nume ral 1
1					𐌸	tu/ du				
2	𐌳	e	𐌴	ke/ ge			𐌾	s		
3					𐌹	l				
4			𐌺	ki/gi						
5	𐌻	i								
6			𐌼	ko/ go						
7	𐌽	o	𐌾	ku/ gu	𐌿	m				
8					𐍀	n				
9	𐍁	u			𐍂	¿?				
A	𐍃	ba	𐍄	ta/ da						
B	𐍅	be								
C	𐍇	bi	𐍈	te/ de						
D	𐍉	bo			𐍊	r				
E	𐍋	bu	𐍌	ti/di						
F					𐍎	z				

Fig. 8: character repertoire of the western Celtiberian non dual script

	1020		1021		1022		1023		1024	
0	𐌱	a	𐌱	ga	𐌱	do			𐌱	numeral 1
1			𐌱	ke	𐌱	tu				
2	𐌱	e	𐌱	ge	𐌱	du	𐌱	s		
3			𐌱	ki	𐌱	l				
4			𐌱	gi						
5	𐌱	i	𐌱	ko	𐌱	m				
6			𐌱	go						
7	𐌱	o	𐌱	ku	𐌱	n				
8			𐌱	gu						
9	𐌱	u	𐌱	ta	𐌱	¿?				
A	𐌱	ba	𐌱	da						
B	𐌱	be	𐌱	te						
C	𐌱	bi	𐌱	de						
D	𐌱	bo	𐌱	ti	𐌱	r				
E	𐌱	bu	𐌱	di						
F	𐌱	ka	𐌱	to	𐌱	z				

Figure 9: character repertoire of the eastern Celtiberian dual script

ISO/IEC JTC 1/SC 2/WG 2

PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS

FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646¹

Please fill all the sections A, B and C below.

Please read Principles and Procedures Document (P & P) from <http://std.dkuug.dk/JTC1/SC2/WG2/docs/principles.html> for guidelines and details before filling this form.

Please ensure you are using the latest Form from <http://std.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html>.

See also <http://std.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html> for latest *Roadmaps*.

A. Administrative

1. Title:	Proposal to encode the Palaeohispanic script
2. Requester's name:	<i>Joan Ferrer, Noemí Moncunill, Javier Velaza, and Deborah Anderson</i>
3. Requester type (Member body/Liaison/Individual contribution):	<i>liaison</i>
4. Submission date:	<i>FILL IN</i>
5. Requester's reference (if applicable):	
6. Choose one of the following:	
This is a complete proposal:	<input checked="" type="checkbox"/>
(or) More information will be provided later:	<input type="checkbox"/>

B. Technical – General

1. Choose one of the following:		
a. This proposal is for a new script (set of characters):	<input checked="" type="checkbox"/>	
Proposed name of script:	<i>Palaeohispanic</i>	
b. The proposal is for addition of character(s) to an existing block:	<input type="checkbox"/>	
Name of the existing block:		
2. Number of characters in proposal:	<i>59</i>	
3. Proposed category (select one from below - see section 2.2 of P&P document):		
A-Contemporary <input type="checkbox"/>	B.1-Specialized (small collection) <input type="checkbox"/>	B.2-Specialized (large collection) <input type="checkbox"/>
C-Major extinct <input type="checkbox"/>	D-Attested extinct <input checked="" type="checkbox"/>	E-Minor extinct <input type="checkbox"/>
F-Archaic Hieroglyphic or Ideographic <input type="checkbox"/>	G-Obscure or questionable usage symbols <input type="checkbox"/>	
4. Is a repertoire including character names provided?	<input checked="" type="checkbox"/>	
a. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&P document?	<input checked="" type="checkbox"/>	
b. Are the character shapes attached in a legible form suitable for review?	<input checked="" type="checkbox"/>	

¹ Form number: N4502-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03, 2008-05, 2009-11, 2011-03, 2012-01)

5. Fonts related:

a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?

The Atelier National de Recherche Typographique (Thomas Huot-Marchand and Arthur Francietta)

b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):

Fill in

6. References:

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

Yes

b. Are published examples of use (such as samples from newspapers, magazines, or other sources)

of proposed characters attached?

yes

7. Special encoding issues:

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

8. Additional Information:

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/reports/tr44/>) and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before?	<i>yes</i>
If YES explain	<i>L2/15-119, L2/15-120, and L2/15-012</i>
2. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)?	<i>yes</i>
If YES, with whom?	<i>Scholars in Spain, Portugal, France, Germany, and UK</i>
If YES, available relevant documents:	
3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included?	<i>yes</i>
Reference:	<i>See proposal</i>
4. The context of use for the proposed characters (type of use; common or rare)	<i>rare</i>
Reference:	<i>See proposal</i>
5. Are the proposed characters in current use by the user community?	<i>yes</i>
If YES, where? Reference:	<i>Books, articles, database, etc.</i>
6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?	<i>no</i>
If YES, is a rationale provided?	
If YES, reference:	
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?	<i>yes</i>
8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?	
If YES, is a rationale for its inclusion provided?	<i>yes</i>
If YES, reference:	<i>See proposal</i>
9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?	<i>no</i>
If YES, is a rationale for its inclusion provided?	
If YES, reference:	
10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to, or could be confused with, an existing character?	<i>yes</i>
If YES, is a rationale for its inclusion provided?	<i>yes</i>
If YES, reference:	<i>See proposal</i>
11. Does the proposal include use of combining characters and/or use of composite sequences?	<i>no</i>

<p>If YES, is a rationale for such use provided?</p>	
<p>If YES, reference:</p>	
<p>Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?</p>	<i>no</i>
<p>If YES, reference:</p>	
<p>12. Does the proposal contain characters with any special properties such as</p>	
<p>control function or similar semantics?</p>	<i>no</i>
<p>If YES, describe in detail (include attachment if necessary)</p>	
<p></p>	
<p></p>	
<p>13. Does the proposal contain any Ideographic compatibility characters?</p>	<i>no</i>
<p>If YES, are the equivalent corresponding unified ideographic characters identified?</p>	
<p>If YES, reference:</p>	

Encoded glyph			Northern								Southern		
			Iberian			Celtiberian					Iberian	South western	Espanca
			NI+	NI++	NI-	WC+	WC-	EC+	EC-				
	10200	á											
	10201	a								S81			
	10202	é								be			
	10203	e											
	10204	í											
	10205	i								i			
	10206	ó								de			
	10207	o								te			
	10208	ú											
	10209	u								bi			
	1020A	ba								S42			
	1020B	be								r			
	1020C	bi								ba			
	1020D	bo											
	1020E	bu								bo			
	1020F	ka								ga			
	10210	ga								ka			
	10211	ke								ge			
	10212	ge								ke			
	10213	ki								S45.4			

NORTHERN

SOUTHERN

			Iberian			Celtiberian					Iberian	South western	Espanca
	10214	gi								S45.2			
	10215	ko								go			
	10216	go								ko			
	10217	ku											
	10218	gu								e			b
	10219	ta								da			
	1021A	da								ta			
	1021B	te								di			
	1021C	de								ti			
	1021D	ti											
	1021E	di								S48			
	1021F	to											
	10220	do											
	10221	tu								du			
	10222	du								tu			
	10223	l								l			
	10224	â								a			
	10225	m								S83			
	10226	ñ								ñ			
	10227	n								n			
	10228	ñ								u			
	10229	m								o			
	1022A									ř			
	1022B	r								r			

NORTHERN

SOUTHERN

			Iberian			Celtiberian				Iberian			South western	Espanca
												r	S50	
	1022C									gi		ki/gi		
		r				r		r						
	1022D									ki			ki/gi	
		r			r		r		r					
	1022E													
		s	s			z		z						
	1022F											S80	S51	
		s				z		z						
	10230									s				
	10231									s				
	10232									s				
		s				s	s	s	s	s				
	10233											bu/pu		
										bu				
	10234									ku/gu				
	10235									to/do				
	10236	S87								S92				
	10237	ka												
	10238	ke												
	10239	di												
	1023A	do												
	10240	numera 11												
L	10241	numera al-A	L	L	L									
Π	10242	numera al-B	Π	Π	Π									
-	10243	1/4	-	-	-									
=	10244	1/2	=	=	=									

NI+ = Northeastern Iberian dual standard

NI++ = Northeastern Iberian dual extended

NI- = Northeastern Iberian non dual

WC+ = Western Celtiberian dual

WC- = Western Celtiberian non dual

EC+ = Eastern Celtiberian dual

EC- = Eastern Celtiberian non dual

SI + = Southeastern Iberian dual

SW = Southwestern Palaeohispanic