

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 Mayanist Latin letters to the UCS
Source: Michael Everson
Status: Individual Contribution
Replaces: N3028, N3047
Date: 2006-04-10

In N3028 I proposed to add Mayanist Latin letters to the UCS; N3047 by Deborah Anderson gives the responses of nine Mayanists to that proposal. In the present document, I correct some errors in my previous document pointed out by the Mayanists, I provide examples of some of the additional scanned materials they provided and which Chuck Riley procured for me, and I respond to some of the specific comments the Mayanists made in the hopes of clarifying those comments for WG2 and the UTC.

1. Background. In N2931, Lorna Priest and Peter Constable proposed the addition of ξ LATIN LETTER TRESILLO and 4 LATIN LETTER CUATRILLO to the UCS in support of archaic letters used in 16th-century Guatemala to write Mayan languages such as Kaqchikel (Cakchiquel), K'iche' (Quiché), and Tz'utujil (Tzutuhil). Although these two letters were accepted for balloting in PDAM3 of ISO/IEC 10646, as a set of characters they are inadequate to represent texts in normalized 16th-century orthography which use these letters. Such normalization may be rare—it certainly has been in the past—but it should nevertheless be supported by the UCS.

The letters in question were devised by Brother Francisco de la Parra (†1560 in Guatemala) and were used by a number of early linguist-missionaries to represent sounds occurring in Kaqchikel, K'iche', and Tz'utujil. In his edition of the *Annals of the Cakchiquels*, Brinton 1885 gives a set of four letters (one of which is used as a digraph with *h*) with the following glyphs, alongside descriptions which he attributes to the grammarian Torresano:

- ξ TRESILLO represented “the only true guttural in the language, being pronounced forcibly from the throat, with a trilling sound (*castañeteando*)”. This is now described as [q'], the glottalized uvular stop.
- 4 CUATRILLO represented “a trilled palatal, between a hard *c* and a *k*”. This is now described as [k'], the glottalized velar stop.
- 4 CUATRILLO WITH COMMA represented a sound “somewhat like the *c* with the cedilla, ç , only more quickly and with greater force—*ds* or *dz*”. This is now described as [ts'], the glottalized alveolar affricate.
- tz TZ “resembles the ‘ 4 with comma’ but is described as softer, the tongue being brought into contact with the teeth, exactly as *tz* in German”. This is now described as [ts], the palato-alveolar affricate.
- 4h CUATRILLO WITH COMMA AND H represented “a compound sound produced by combining the cuatrillo with a forcible aspirate”. This is now described as [ʃ'], the glottalized alveolo-palatal affricate. Note that the comma is an integral part of the character, not a spacing comma—it is 4h , not 4,h —nor is it a combining comma below. (Pp 49–50; see Figures 1 and 1.)

[Note: Brinton does use 4h here, and as Tom Larson notes, this may be a printing error for 4h. In any case it is still not 4,h.] Brinton follows this with a discussion of Parra’s characters by Otto Stoll; I have given them alongside modern transcriptions:

“The four new signs added to the European alphabet, by some of the old writers on Cakchiquel (Parra, Flores), viz: ɛ, 4, 4, 4h, are but phonetic modifications of four corresponding signs of the common alphabet. so we get four pairs of sounds, namely:—

c and 4;	[k, k’]
k and ɛ	[q, q’]
ch and 4h (> 4h ?)	[tʃ, tʃ’]
tz (i.e. tʒ) and 4	[ts, ts’]

forming two series of consonants, the former of which represents the common letters, and the latter their respective ‘cut letters,’ which may be described as being pronounced with a shorter and more explosive sound than the corresponding common letter, and separated by a short pause from the preceding or following vowel.” (Pp 50–51; see Figure 2.)

Neither Brinton nor Stoll discusses the cameral nature of these “additions to the European alphabet”. There is, however, *no reason to assume*—as Priest and Constable have done—that the 16th-century devisors considered these letters to be *any* different from any other Latin letters.

2.0. Case. In N2931, Priest and Constable posited that TRESILLO and CUATRILLO were caseless (by naming them without CAPITAL or SMALL, and by apparently assigning them the property “Lo” analogously to U+01C0 LATIN LETTER DENTAL CLICK). No evidence, however, was presented for this assertion. The examples cited in their proposal were only samples of the letters used to show the existence of the letters; such examples have no reference to use. A decision that these letters must be caseless because such charts do not show them with case leads only to a false economy in encoding, which, in turn, leaves the potential user of these characters in UCS encoding without the choice to use them as ordinary Latin letters in normalized texts. It is true that most of the examples using these letters in modern Mayanist literature simply refer to them in discussions of orthography, and do not use them in running text. Indeed, a number of sources note that Brinton 1885a is one of the few editors who made use of them in running text. The fact that these letters are being encoded at all, however, indicates a concern that future scholars be given the tools to use these letters in their work. And a number of the Mayanists have expressed their interest in using the letters in casing pairs (as can be seen below.

When the archaic Coptic letters were encoded, they were encoded as casing letters so that Coptacists could make use of them in accord with normal scholarly editorial and typographic practice. The Mayanist letters should, *in principle*, also be considered to be casing, so that normal scholarly editorial and typographic practice can be likewise applied to Mayanist studies.

Since the publication of N3028 we have found examples of capital and small TRESILLO and CUATRILLO, in precisely the kinds of contexts that I suggested we would. That fact does not change central argument: that the Latin script is a casing script, intrinsically, and that users of the Latin script routinely expect casing pairs and create them when they have the means to do so. I believe that WG2 and the UTC should consider the wisdom of avoiding the kind of argument we have had over the Mayanist letters by assuming that Latin letters should be encoded in casing pairs *unless* the nature of the letters themselves is such that the design of a pairing simply makes no sense.

2.1. Evidence for case in Brinton 1885a. Brinton’s usage of Parra’s letters in his edition of *The Annals of the Cakchiquels* is notable; indeed he criticizes the Abbé Brasseur de Bourbourg’s edition of the *Popol Vuh* for not having used them: the Abbé has, he says, “made use only of the types of the Latin alphabet; and both in this respect and in the fidelity of his translation, he has left much to

be desired in the presentation of the work” (p. 52). Having said that, it must be observed that Brinton’s typesetters did not favour the Mayanist letters with *any* sort of typographic care: the four letters ξ , 4, 4, and ξ are used indifferently in the text, in both roman and italic contexts, and in both casing and non-casing contexts. Not one of them was designed to harmonize with the 12-point text typeface (and no care was given to roman and italic forms); indeed they appear to have been cut in 18 points, and these sorts are even used in 9-point footnotes in Brinton 1885a. This *cannot* be considered as evidence that the characters are caseless; it is merely evidence of poor typography.

Nor can the manuscript itself be considered to be entirely definitive as to the question of casing. Brinton states (p. 63): “Capital letters are not often used in the original to distinguish proper names, and as the text has been set up from a close copy of the first text, some irregularities in this respect also must be anticipated.” As a modern editor, however, Brinton *does* normalize his texts to distinguish proper names with case for the Latin letters available to him; in both the English and the original Quiché—except where his poor fonts prevent him from setting the Mayanist letters adequately. From Brinton 1885a, pp. 126–129 and 146–148:

66. The chief Citan Qatu ruled, the son of the chief Caynoh, to whom were mystic power and wisdom. Then ruled the chief Qotbalcan. The chief Alinam ruled. Next ruled the chief Xttamer Zaquentol. Then followed in power Qhiyoc Queh Ahgug. In his reign the chief and Galel Xahil Xulu Qatu gathered together the Quiche nation, desiring that war should be declared against those who were attacking the Ginona.... 91. It was on the day 10th Tzy that occurred the destruction of the Quiches at Iximche; but the news of it had not yet reached our ancestors, Oxlahu tzii and Cablahuh Tihax, when the Quiches came to destroy the Zotzil Tukuches.

66. Xahauar ahauh Citan 4atu, ru 4ahol ahauh Caynoh, xa vi 4oh ru puz ru naval ri. Ok xahauar chi4a ahauh 4otbalcan. Xahauar 4a ahauh Alinam xahauar chi4a ahauh, Xttamer Çaquentol. Ok xoc chi4a ahauh 4hiyoc Queh ahξuξ. Haok xmolobax el ahauh ξ alel Xahil Xulu 4atu chire 4echevinak, xax rah ru yac labal ahauh chiree xban vi pa ξ inona.... 91. Ha 4a chi lahuh 4ij, rucam ka 4eche vinak chi Yximchee, 4i mani 4a ru tzihol cu4in ka mama Oxlahuh 4ij, ha Cablahuh Tihax, ok xpeul 4echevinak, camicay richin Ço4il Tukuchee.

Here we see *Qatu/4atu* beside *son/4ahol* and *Ahgug/ahξuξ* (the second should have been *Ahξuξ*) beside *Galel/ ξ alel*. I am certain that Brinton would have set his text, if the appropriate fonts had been available to him, thus:

66. Xahauar ahauh Citan 4atu, ru 4ahol ahauh Caynoh, xa vi 4oh ru puz ru naval ri. Ok xahauar chi4a ahauh 4otbalcan. Xahauar 4a ahauh Alinam xahauar chi4a ahauh, Xttamer Çaquentol. Ok xoc chi4a ahauh 4hiyoc Queh Ahξuξ. Haok xmolobax el ahauh ξ alel Xahil Xulu 4atu chire 4echevinak, xax rah ru yac labal ahauh chiree xban vi pa ξ inona.... 91. Ha 4a chi lahuh 4ij, rucam ka 4eche vinak chi Yximchee, 4i mani 4a ru tzihol cu4in ka mama Oxlahuh 4ij, ha Cablahuh Tihax, ok xpeul 4echevinak, camicay richin Ço4il Tukuchee.

I say that I am certain that Brinton, had he been able, would have written *Qatu/4atu* beside “*son/4ahol*” and *Ahgug/Ahξuξ* beside *Galel/ ξ alel*. How can I be certain? The use of 18-pt ξ in 12-pt *ahξuξ* is an artefact of the fonts available to Brinton. Nothing like that size distinction occurs in the manuscripts. (See also Figures 3 through 5.)

Brinton’s use of case in his Vocabulary and Index of Native Proper Names at the back of the book is also clear; as was common in the 19th century, each entry is title-cased (see Figure 2). The alphabetical order he gives is: A, B, C, Ç, Ch, E, H, I, K, L, M, N, O, P, Qu, R, T, U, V, X, Y, ξ , 4, 4h, 4, Tz. Note that although Brinton describes the use of ξ as a separate letter in his introduction, he only uses the digraph *tz* in his text and indices. Doubtless this last was *also* for typographic convenience; cf. the *Popol Vuh* manuscript referred to below in §2.2.

Brinton also gives (pp 55–56; see also Figure 4) the following title captions in uppercase (he uses the 18-point outsized letters):

VAE MEMORIA CHIRE 4HAOH
THIS IS THE RECORD FOR THE PROCESS

VAE MEMORIA CHIRE VINAK CHIJ
THIS IS THE STATEMENT OF THE TORTS

VAE MEMORIA ξANAVINAKIL
THIS IS A RECORD OF THE WITNESSES

Brinton described the letters in question as “four new signs added to the European alphabet”. This does not imply the kind of caselessness that we find for African click letters invented in the nineteenth century. Priest and Constable’s apparent belief that these letters should be encoded caselessly because they *were* in fact caseless implies that Spanish missionaries in Guatemala *conceived* of the new letters they devised as specifically caseless. This is not, to my mind, credible. To the missionaries, letters were letters, pure and simple. Whether they *applied* casing consistently to proper names is an orthographic question. Let us look at the *Annals of the Cakchiquels* manuscript itself for more on the question of casing.

2.2 Evidence in the *Annals of the Cakchiquels* manuscript. Since N3028 was published I have been able to examine a facsimile of this MS. See Figures 23–26 for a number of relevant samples.

2.3 Evidence in the *Popol Vuh*. Further evidence for the generalization of case for these letters can be found in Brother Francisco Ximénez’ 16th-century bilingual manuscript of the Mayan *Popol Vuh*. UNESCO funded the publication of the first facsimile edition of this work for the “International Year of the Book” in 1973. On the left-hand pages, the K’iche’ and Spanish text in the Ximénez’ handwriting are given; on the right-hand pages, Agustín Estrada Monroy presents a somewhat normalized transcription of the Spanish text. At the beginning of the work, Estrada has transcribed some of the K’iche’ text, and there are K’iche’ names throughout the text. Ximénez’ hand is quite spidery, but some of the letters in question can be seen fairly clearly. The shapes of the TRESILLO can be seen, looking often like a two-stroke ligature of *c* and inverted breve, often with the strokes disjointed. Sometimes it looks like two *cs* stacked or like a tall open *e*. Estrada transcribes these as <k> or <c> (without much systematicity) in his transcription of the K’iche’ at the beginning of the text.

That casing is a feature of orthography in general is clear: a few all-caps titles are given, and many lines and names begin with capital letters. Initial capital Z appears at line 4854 of the Spanish text, and in the corresponding line in the K’iche’, in the name *Ztayul*; the form of this letter is similar to the modern EZH. Line 49 of the Spanish text reads as a title: ESTE ES SV SER DICHO QVANDO; the corresponding K’iche’ text is ARE V ʒIHOXIC VAE with a very carefully drawn capital *tz* ligature, again, with the EZH shape. The same ʒ is used at the very beginning of the introduction to the text, lines 1 and 2 of both the K’iche’ and the Spanish text (see Figures 11–16):

ARE V XE OHER
ʒih varal Quiche vbi

ESTE ES EL PRINCÍPIO DE LAS
antiguas historias aquí en el quiché.

Here the word *Quiche* is capitalized in the K’iche’, and not in the Spanish, in the manuscript. Other examples of inconsistent capitalization of names may be found in this manuscript: *Balam* K’iche’, *balam* Spanish; *Mexico* K’iche’ and Spanish; *rabinal* K’iche’, *Rabinal* Spanish. This doesn’t signify; it does indicate however that case is an expected feature of the orthography used. We are unlucky that the *Popol Vuh* manuscript does not seem to have an example of CAPITAL LETTER TRESILLO. But this does not mean that TRESILLO “is” caseless, particularly in view of the evidence of TZ, where its capital is so carefully drawn and its lower-case form is as expected in the script handwriting.

Certainly a modern editor using the UCS needs to be able to choose CAPITAL LETTER TRESILLO if he or she wishes to.

3. Glyph design. The glyph design of the letters in question deserves some attention. As we have seen, they have been poorly treated by typographers in the past. In the manuscript tradition there are various practices where the scribes drew “typographic” forms and these are instructive.

3.1. Glyph design of LATIN LETTER TZ. Capital and small Tz and tz are both attested in the Popol Vuh manuscript, the former very carefully drawn, and the T-EZH ligature shape seems appropriate enough. Michael Dürr suggests that a proper T-z/t-z ligature would be more appropriate, but in his own example it looks rather unnatural—more like an old IPA ligature than something useful for natural orthography. I made two pairs of t-z ligatures: one close like Dürr’s, Tz tz Tz tz , and one somewhat more open, Tz tz Tz tz . I am not convinced that either is an appropriate modern typographic form for these resurrected letters. The ezh-shape used in Tz tz Tz tz has the more “original” flavour, and the z-shape is, I think, a hypercorrection. I propose to continue discussion with the Mayanists about this during the ballot period, which is long enough to settle the issue.

3.2. Glyph design of LATIN LETTER CUATRILLO. The CUATRILLOS are also easy enough to design: Take capital J and small j and attach the flag of a 4 to it, extending the horizontal bar far enough to nestle a small comma inside of it for the CUATRILLO WITH COMMA, thus: $4 J 4 4 j 4 4$, yielding italic $4 J 4 4 j 4 4$. The letters without the comma do not need the horizontal bar, as seen in Figure 18. The G-shaped cuatrillo needs no modern imitation.

3.3. Glyph design of LATIN LETTER TRESILLO. The TRESILLO is the most problematic. Brinton’s E is strange in the first place because it goes below the baseline, but then it is clearly not designed in harmony with the text font he is using. In the manuscripts, the lower-case TRESILLO sits on the same baseline as does the letter *c*, and the examples show either a sort of two-stroke tall open-*e*/double-*c* shape, or a *c* with a kind of inverted breve attached to it—sometimes indeed not attached to it. It often looks something like E , but a more tall-epsilon shape is often found and E , italic E , is probably best for the normalized shape for the lower-case TRESILLO. A nice, typographic capital TRESILLO can be seen in Figure 18 where the two loops overlap, thus: E .

3.4. Glyph design of LATIN LETTER HENG. Both Michael Dürr and Tom Larsen pointed out that a character distinction between ordinary h and word-final h which may have represented a uvular fricative sound. This is by no means a new character; it even has a name, dating from at least the first edition of Pullum and Ladusaw’s *Phonetic Symbol Guide* (1986). I have proposed to add H LATIN CAPITAL LETTER HENG and h LATIN SMALL LETTER HENG to the UCS in this revision. Its inclusion will allow Mayanists to choose how to represent the manuscript text in their editions. See, in particular, Figure 23 below.

4. Proposal. I propose the addition of the following letters to the UCS:

2C6F	H	LATIN CAPITAL LETTER HENG
2C70	h	LATIN SMALL LETTER HENG
2C78	E	LATIN CAPITAL LETTER TRESILLO
2C79	E	LATIN SMALL LETTER TRESILLO
2C7A	4	LATIN CAPITAL LETTER CUATRILLO
2C7B	4	LATIN SMALL LETTER CUATRILLO
2C7C	4	LATIN CAPITAL LETTER CUATRILLO WITH COMMA
2C7D	4	LATIN SMALL LETTER CUATRILLO WITH COMMA
2C7E	Tz	LATIN CAPITAL LETTER TZ
2C7F	tz	LATIN SMALL LETTER TZ

Note that this entails deleting 2C6F LATIN LETTER TRESILLO and 2C70 LATIN LETTER CUATRILLO from PDAM 3.

Unicode Character Properties

2C6F;LATIN CAPITAL LETTER HENG;Lu;0;L;;;;;N;;;2C70;
2C70;LATIN SMALL LETTER HENG;Ll;0;L;;;;;N;;;2C6F;;2C6F
2C78;LATIN CAPITAL LETTER TRESILLO;Lu;0;L;;;;;N;;;2C79;
2C79;LATIN SMALL LETTER TRESILLO;Ll;0;L;;;;;N;;;2C78;;2C78
2C7A;LATIN CAPITAL LETTER CUATRILLO;Lu;0;L;;;;;N;;;2C7B;
2C7B;LATIN SMALL LETTER CUATRILLO;Ll;0;L;;;;;N;;;2C7A;;2C7A
2C7C;LATIN CAPITAL LETTER CUATRILLO WITH COMMA;Lu;0;L;;;;;N;;;2C7D;
2C7D;LATIN SMALL LETTER CUATRILLO WITH COMMA;Ll;0;L;;;;;N;;;2C7C;;2C7C
2C7E;LATIN CAPITAL LETTER TZ;Lu;0;L;;;;;N;;;2C7F;
2C7F;LATIN SMALL LETTER TZ;Ll;0;L;;;;;N;;;2C7E;;2C7E

Bibliography.

- Ara, Fray Domingo de. 1986 [1571] *Bocabulario de lengua tzeldal según el orden de Copanabastla*. Mario Humberto Ruz, ed. México: Universidad Nacional Autónoma de México.
- Brinton, Daniel G. 1885a. *The annals of the Cakchiquels: the original text, with a translation, notes and introduction*. (Library of Aboriginal American Literature; 6) Philadelphia: Brinton's Library of Aboriginal American Literature.
- Brinton, Daniel G. 1885b. "Supplementary remarks to the grammar of the Cakchiquel language", in *Proceedings of the American Philosophical Society*. Cited in Brinton 1885a above.
- Campbell, Lyle. 1977. *Quichean linguistic prehistory*. (University of California publications in linguistics, 81.) Berkeley: University of California Press.
- Carmack, Robert M., & James Mondloch, eds. 1983. *El Título de Totonicapán*. México: Universidad Nacional Autónoma.
- Estrada Monroy, Agustín, ed. 1973. *Empiezan las historias del origen de los indios de esta provincia de Guatemala Popol Vuh*. Traducido de la lengua quiché a la castellana por el R. P. fray Francisco Ximénez. Edición facsimilar. Palaeografía parcialmente modernizada y notas por Agustín Estrada Monroy. Guatemala: José de Pineda Ibarra.
- Guzmán, Pantaleón de. 1984 [1704]. *Compendio de nombres en lengua Cakchiquel*. México: Universidad Nacional Autónoma de México.
- Otzoy Calí, Simón, ed. 1999. *Memorial de Sololá: transcripción al kaqchikel moderno y traducción al español*. Guatemala: Comisión Interuniversitaria Guatemalteca de Conmemoración del Quinto Centenario del Descubrimiento de América.
- Pullum, Geoffrey K., and William A. Ladusaw. 1986 (1996 2nd edition). *Phonetic symbol guide*. Chicago and London: University of Chicago Press.
- Robertson, John S. 1984. "Colonial evidence for a pre-Quiche, ergative 3sg *ru-.", in *International Journal of American Linguistics* 50.452-5.
- Robertson, John S. 1986. "A reconstruction and evolutionary statement of the Mayan numerals from twenty to four hundred", in *International Journal of American Linguistics* 52.227-41.
- Robertson, John S. 1999. "The history of first-person singular in the Mayan languages", in *International Journal of American Linguistics* 65.449-65.
- San Buenaventura, Fray Gabriel de. 1986 (1684). *Arte de la Lengua Maya*. Facsimile and edited version by René Acuña. Fuentes para el Estudio de la Cultura Maya, 13. Instituto de Investigaciones Filológicas, Universidad Nacional Autónoma de México, México. ISBN 968-36-5419-3.
- Tedlock, Dennis. 1996. *Popol Vuh: The definitive edition of the Mayan book of the dawn of life and the glories of gods and kings*. New York: Touchstone. ISBN 0-684-81845-0
- Torresano, Estevan. [s.d.] *Arte de la lengua Cakchiquel*. MS in the possession of Daniel Brinton in 1885. Cited in Brinton 1885a above.

Figures.

Besides the above, there are five sounds occurring in the Cakchiquel, Quiche and Tzutuhil, for which five special characters were invented, or rather adopted, by the early missionary Francisco de la Parra, who died in Guatemala, in 1560. They are the following :—

4 4^h 4̣ ɛ̣ ɰ

The origin and phonetic value of these, as given by the grammarian Torresano, are as follows :¹—

ɛ̣ This is called the *tresillo*, from its shape, it being an old form of the figure three, reversed, thus, ɛ. It is the only true guttural in the language, being pronounced forcibly from the throat, with a trilling sound (*castañeteando*).

4̣ From its shape this is called the *cuatrillo*, Parra having

¹ Fr. Esteyan Torresano, *Arte de la Lengua Cakchiquel*, MS., in my possession.

Figure 1. Sample from Brinton 1885a, showing the “five special characters” (that is, four characters and one digraph with *-h*) and describing them. Note how in lead type he has simply inverted a 3 in his description of the origin of TRESILLO.

4̣ The name applied to this is, the *cuatrillo con coma*, or the 4 with a comma. It is pronounced somewhat like the *c* with the cedilla, ç, only more quickly and with greater force—*ds* or *dz*.

ɰ This resembles the “4 with a comma,” but is described as softer, the tongue being brought into contact with the teeth, exactly as *tz* in German.

4^h A compound sound produced by combining the *cuatrillo* with a forcible aspirate, is represented by this sign.

Naturally, no description in words can convey a correct notion of these sounds. To learn them, one must hear them spoken by those to the manner-born.

Dr. Otto Stoll, who recently made a careful study of the Cakchiquel when in Guatemala, says of Parra’s characters :—

“The four new signs added to the European alphabet, by some of the old writers on Cakchiquel (Parra, Flores), viz : ɛ̣, 4̣, 4^h, ɰ, are but phonetic modifications of four corresponding signs of the common alphabet. So we get four pairs of sounds, namely :—

c and 4̣ ;
k and ɛ̣
ch and 4^h
tz and ɰ

forming two series of consonants, the former of which represents the common letters, and the latter their respective “cut letters,” which may be described as being pronounced with a shorter and more explosive sound than the corresponding

Figure 2. Sample from Brinton 1885a continuing the discussion. He shows, as I have above on the top of page 2, the pairings of the plain and the glottal sounds; he does not use his ɰ here, though he ought to, given his discussion of this immediately above.

Xeamatal chii, 23.	ƐaƐxanul, 31, 32.
Xe Caka Abah, 139.	Ɛekacivan, 77.
Xeƕuh, 23.	ƐekaƐuch, 3, 10, 29, 39, 40, 48, 50.
Xechibohoy, 84.	Ɛinona, 63, 66, 91.
Xechipeken, 101, 102.	Ɛucumatz, 20, 38.
Xechituh, 84.	Ɛumarcaah, 70, 71, 82, 90, 146.
Xe la hub, 145, 179.	ƐuƐucot, 41.
Xepakay, 64.	ƐuƐuchom, 3.
Xepalica, 112.	ƐuƐu huyu, 77, 94, 97.
Xepau, 157, 158.	
Xe pit, 144.	Ɛabouil Ɛivan, 63.
Xepoyom, 41, 138.	Ɛalalapacay, 33.
Xerahapit, 77, 97.	Ɛakbatzulu, 35, 37.
Xet, 3, 27, 28.	ƐamaƐekum, 77.
Xetocoy, 23.	Ɛatu, 88, 119, 125.
Xe tulul, 144.	Ɛatun, 3.
Xeuh, 23.	ƐaxƐan, 77, 94, 97.
Xey noh, 112.	Ɛeche, 9, 15, 20, 28, 29, 41, 45, 66, 76.
XhuƐuy, 81.	Ɛeletel, 41.
Xibalbay, 4, 5.	Ɛian, 133, 135.
Xiliviztan, 23.	Ɛicihay, 137.
Ximbal xuƐ, 29.	Ɛikab, 67-72, 74-114.
Ximox, 88.	Ɛiria Yyu, 100, 103.
Xiquitzal, 70, 73.	ƐizƐab, 84, 85.
Xit amal Queh, 82, 84, 85.	Ɛobakil, 3, 11, 26, 61.
Xitayul Hax, 69.	Ɛomakaa, 43.
Xivanul, 84.	Ɛot balcan, 66.
Xivico, 110.	Ɛoxabil, 3, 21, 26, 61.
Xttamer Ɛaquentol, 66.	Ɛubulahay, 34.
Xubabal, 77.	Ɛulavi cochoh, 34.
Xuchipillan, 173.	Ɛulavi Ɛanti, 34.
Xulpit, 19, 20.	Ɛhicbal, 112.
Xulu Ɛatu, 66.	Ɛhitibal, 22.
Xumak cham, 95.	Ɛhixnal, 49, 77.
Xurcah, 3, 29.	Ɛhiyoc Queh AhƐuƐ, 66.
XƐekaƐuch, 135.	ƐholamaƐ, 23.
	Ɛhooc Tacatic, 95.
Ɛalaah, 63, 91.	
ƐaƐalyx, 77.	
ƐaƐavitz, 2, etc.	

P

Figure 3. Sample from the index of proper names in Brinton 1885a. There is no reason to think that *Xe Caka Abah* is capitalized differently than *Ɛhiyoc Queh AhƐuƐ*, or indeed that *XƐekaƐuch* does not properly contrast with *ƐekaƐuch*. If Ɛ were truly caseless, we might expect *ƐƐekaƐuch in titlecasing, mightn't we?

I. VAE XTINUƐIBAH HALAL QUITZIH
HE NABEY

Ka tata ka mama, heri xeboƕo vinak oher mahaniok ti laƐabex vae huyu taƐah; Ɛa ruyon ok umul Ɛiquin Ɛoh, que cha, ha ok ki xquilaƐabeh huyu taƐah he Ɛa ka tata ka mama, yx nuƐahol, pa Tulan.

2. XtinuƐibah Ɛa quitzih ri ki he nabey ka tata ka mama ƐaƐavitz rubi, Ɛactecauh ru bi hunchic, he Ɛoh quitzih que cha Ɛa Ɛhaka palouh xoh pevi, pa Tulan ru bi huyu, xoh alax xoh Ɛaholax vi pe ruma ka tee, ka tata, yxkaƐahol, quecha ri oher tata mama, ƐaƐavitz, Ɛactecauh qui bi, ri ki xepe pa Tulan he cay chi achij heri xoh boƕo, oh Xahila.

Figure 4. Sample from Brinton 1885a showing CUATRILLO WITH COMMA used in an all-caps and a plain context. This is surely *XTINUƐIBAH* (and not *XTINUƐIBAH*) contrasting with *XtinuƐibah*.

gambal richin YkomaꞤ vae.

34. Ok xet chiꞤa chinaht ri Cakixahay Ꞥubulahay ru bi, rikam YkomaꞤi, cani xꞤamar rokotaxic cuma, runah Ꞥa xilitah ChiꞤalibal rubi huyu; xuya vi ri hoye vi quivach, ok xilitah, xaxu Ꞥaba chic rij. QuereꞤa xubinaah vi huyu, ChiꞤalibal ri. Xcha Ꞥa ok xu ya ri: Xa yn achaꞤ animal, xa mixiꞤhacatah, xaquin ikan a tem, a Ꞥhacat, yn huvi chi vinak Ꞥo vikan. Xcha ri YkomaꞤi, he Ꞥa rikan ri Cakixahay, Ꞥubulahay; quereꞤa ruꞤamic YkomaꞤ ri, xere Ꞥa xcolotah. Chic ri xeboꞤo chic ꞤoꞤil vinak, qui tata qui mama ri AhpoꞤoꞤil Qulavi Ꞥochoh, Ꞥula vi Ꞥanti quibi; xaqui vinakil xeel chic mani chic quikan.

The Conquest of the Ikomagi.

34. Then they saw at a distance those called the Cakixahay and the Qubulahay, subjects of the Ikomagi. They were captured after they had been routed by a surprise, when they were not far from a place called Chigalibal. They were pardoned when they arrived, and our warriors extended their hands to them. Hence that place was called Chigalibal. They said, in yielding: "I am your brother, your elder. You are the conquerors. We are the subjects of your throne and your power. I swear it before these who are my subjects." Thus spoke the Ikomagi, and thus their subjects, the Cakixahay and the Qubulahay. Thus did Ikomag submit and save his life. With them the Zotzils brought forth those fathers and elders, the Ahpozotzils named Qulavi Zochoh and Qulavi Qanti. But only their families, not their vassals, proceeded therefrom.

Figure 5. Sample from Brinton 1885a showing the capitalization of proper names. In English he gives *Cakixahay*, *Qubulahay*, *Ahpozotzil*, *Qulavi Zochoh*, and *Qulavi Qanti*. His K'iche' for these reads *Cakixahay*, *Ꞥubulahay*, *AhpoꞤoꞤil*, *Ꞥulavi Ꞥochoh*, and *Ꞥula vi Ꞥanti* [sic, but compare *Ꞥulavi cochoh* and *Ꞥulavi Ꞥanti* in the index shown in Figure 3 above]. In normalized and corrected form these must be *Cakixahay*, *Ꞥubulahay*, *AhpoꞤoꞤil*, *Ꞥulavi Ꞥochoh*, and *Ꞥulavi Ꞥanti*.

For Cakchiquel we have the following progression. The Solana Cakchiquel dictionary (said to have been widely used in the 1500s) had no palatalized velars. Some examples are:

Ꞥak	"flea"	(k'aq)
cak	"red"	(kaq)
queh	"deer"	(ke·x)
icaꞤ	"sling (honda)"	(ikaq')
rochoch queh	"stable" (literally "its-house deer")	(roꞤoꞤ ke·x)

The Vare(1)a dictionary was compiled ca. 1600, but was based on earlier work by Parra (discussed above) and Pedro de Betanzos (who wrote his *Arte de la lengua de Guatemala*, ca. 1545), both lost. Therefore, it is not possible to be certain whether Varela presents Cakchiquel as spoken in 1600 or as spoken in the mid 1500s in the works he used. In either case, Varela lacks palatalization:

icah	"axe"	(ikax)
icaꞤ	"sling (honda)"	(ikaq')
queh	"deer"	(ke·x)
xꞤak	"fingernails (uñas)"	(išk'aq)

Figure 6. Sample from Campbell 1977, showing rather ghastly typographic forms for both CUATRILLO and TRESILLO. The former stands high on the baseline but is otherwise unobjectionable.

The latter is a fusion of c and ^ circumflex, which is not unlike what actually occurs in the manuscript, though here the letter seems to have been achieved by kerning (as its representation repeated in differs in the two words *icaꞤ*: *icaꞤ* and *icaꞤ*).

various grammars. I have preserved the original orthography. The earliest Quiche (and Cakchiquel) grammarians did superlative linguistic work in making up symbols for phonemes which went beyond Spanish phonology. For example, Anleo's 3 (actually, a reversed 3: ε) corresponded to q', 4 to k', k to q. The problem is that later grammarians were less accurate in a consistent recording of the uniquely Mayan phonological distinctions. Below, Anleo's work is phonemically accurate, as is the Kekchi. The others are not.

Figure 7. Sample from Robertson 1984, where the author equates DIGIT 3 with REVERSED OPEN E, and suggests that TRESILLO is OPEN E, which it is not. He substitutes DIGIT 4 for CUATRILLO.

Rather than normalizing the spellings, I maintain the original orthographies. In the reconstructions, however, I use typical American linguistic conventions. In Colonial highland Guatemalan languages, the following orthography was adopted: /s/ = s, z, or c; /ʃ/ = x; /x/ = h; /k/ = c or qu; /kʔ/ = 4; /q/ = k; /qʔ/ = e; /éʔ/ = 4; /čʔ/ = 4 h. It must be pointed out, however, that these symbols were inconsistently used, particularly Moran (1720).

Figure 8. Sample from Robertson 1986, where the author has a better CUATRILLO, though still high on the baseline. He also continues to equate TRESILLO and OPEN E.

- COMPL: 1ST on 3D: *xin/nuloꝑoh* [š-in/nu-loq'ox] COMPL-ERG1SG-hit 'I hit it'
- INCOMPL: 1ST on 3D: *canuloꝑoh* [ka-in/nu-loq'ox] INCOMPL-ERG1SG-love 'I love it'
- INCOMPL: 1ST on 2D: *catnuloꝑoh* [k-at-in/nu-loq'o-x] INCOMPL-ABS2-ERG1SG-love-AFF.TR 'I love you'
- POSSESSIVE: *nu-4chol* [k'axol] 'my [male] son'

Figure 9. Sample from Robertson 1999. Here OPEN E is still used for TRESILLO, but an improving CUATRILLO is found, hanging below the baseline as it should.

In the Popol Vuh and other early alphabetic documents in Quiché and other Quichean languages, vowels followed by glottal stops were written *aa, ee, ii, oo, uu*; in the new spellings these become *a', e', i', o', u'*. Among the glottalized consonants, *b* becomes *b'*, *tt* becomes *t'*, *4h* becomes *ch'*, and *4*, becomes *tz'*. Among *k* sounds, the plain front variety formerly written *c* or *qu* is now *k*, while the plain back variety formerly written *k* is now *q*. The glottalized forms once written *4* and *3* are now *k'* and *q'*, respectively. And finally, *h* becomes *j*, while *z* and *ç* become *s*. Where untranslated proper names appear in roman type, they follow the original spellings of the documents. Otherwise, original spellings (in roman type enclosed in brackets) are given only where the new spellings of the same words (in italics) include corrections of phonetic or scribal errors.

The names of the Guatemalan Mayan peoples and languages mentioned in this work, as written in the new official alphabets, are *K'iche'*, *Kaqchikel*, *Tz'utujil*, *Poqomchi*, *Q'eqchi'*, *Ixil*, *Mam*, and *Jakalteko*. The spellings used in

Figure 10. Sample from the popular translation of the Popol Vuh in Tedlock 1996.

The author uses DIGIT 4 and DIGIT 3 for CUATRILLO and TRESILLO. The names given in modern orthography in the last paragraph can be given in normalized orthography according to normal modern editorial practice if casing pairs for the Mayanist letters are available in the UCS: *K'iche'/4ichee*, *Kaqchikel/Cakchiquel*, *Tz'utujil/4utuhil*, *Poqomchi/Pokomchi*, *Q'eqchi'/Eekchii*, *Ixil/Ixil*, *Mam/Mam*, *Jakalteko/Hacalteco*.

ARE V XE OHER
 Tzih varal quiche vbi.
 varal xchicah bah vi xchica-
 kquiba vi oher tzh, vharibal,
 vxenabat puch tonohel xban,
 pahnam quiche, ramac qui-
 chevinac; arecut xchicacam
 vi vcutunizaxic, vcalahobiza-
 xic, vghioxic puch vna xibal
 zaquiribal rumal hacol bitol
 alom, gaholom quibi hun ah-
 pu vuch, hun ahpu vhu, za-
 quininac tzh, tepen, qucu mah
 vguv cho, vguv palo, ah ra-
 xalae, ah raxa hel chu gha-
 xic, raxbixic, rax tixoxic
 ry iyom, mamom xpiyacoc,
 xmucaue vbi, mahanal chu-
 me nel camul yiom, amul
 mamom chugha xic pe quiche
 tzh. hu xquihitohk tonohel
 xquiban chic chiza quil
 golem, zaquil tzh vae xchi-

ESTE ES EL PRINCIPIO DE LAS
 antiguas historias aqui en el quiche.
 Aqui es criuivemos, y ompezamos las
 antiguas historias, su principio, y comien-
 so de todo lo que fue hecho en el pueblo de
 el quiche, su pueblo de los indios quicheos;
 y de aqui tomaremos un ser declarado, y
 manifestado, y un ser velado, la esconde-
 dura, y a clara dura, por el formador, y rri-
 ador madre, y Padre q' an' se llaman, hun
 ahpu vuch. hun ahpu vhu. zaquini ma tzh.
 tepen. qucu mah. vguv cho. vguv palo. (nom-
 bres, o atributos. q' significan; un triado, facu-
 ajin. un triado coyote. blanco pizote. ser-
 fuor se culbra. corazon de la laguna. co-
 razon de el mar.) el de el verde cogete, el
 de la verde hicara sonlla mados. y san ta
 monte es dicho, y hablado. de aquella abu-
 da, y abuelo q' se llamaban: xpiyacoc, y
 xmucaue. nombres propios. amparado-
 res, y cubridores de vnos abuelo, y del
 vnos abuelo son dichos en las historias quiche-
 os q' comunicaron todo con los tzi-

Figure 11. Sample from the Popol Vuh manuscript (p 24). The CAPITAL LETTER TZ is shown in the second line alongside CAPITAL LETTER Q in Quiche, though in Spanish SMALL LETTER Q is used. Further down the SMALL LETTER TZ is used; the word is Tzih or tzh 'word, speech' in both cases: quiche tzh = historias quicheas.

pautix vbi vacamic inri xia-
 nahvi xcanahoc pagivan
 rumal Balam acab. cholom
 vcanah. vna be ri xcanah chi-
 cut hacavith chuvi hun nima
 carha hacavith vhi huyub
 vacamic. xquihnamit curi ya-
 xic chiricut xgohevi caba-
 vil hacavith vhi. xavi, xca-
 nah ri mahucutah ruc vca-
 vil vob cut cabavil ri xe-
 vax cumal mana pagu e-
 chelah xgohevi hacavith xa
 zaquiri huyub xevax vi hacavith
 la xpe chicut balam quiche xul
 chiri panima quechelan xul
 euaxo vi tzhil rumal Balam
 quiche xatohil ghughax va-

y quedo en la barranca por balam acab
 y or ni' glera terdezora el primer
 q' quedo fue hacavith. sobre un rio
 grande llamado agua colorada, y se
 llama el serro hacavith, agora yahi
 fue su habitacion, y alli estuvo el pa-
 idolo hacavith. q' an' era un nombre.
 y an' en un serro quedo mahucutah
 con su idolo, q' era el segundo q' se
 escondio por ello, no en la montaña
 estuvo hacavith, sino q' en un serro
 guante, y raso se escondio, el haca-
 vith. y entonces vino el balam qui-
 che, y llego alli a un agrax monta-
 ña a oculta al tzhil, q' se escondio
 balam quiche. y agora se llama ma: pa-
 tohil. aquella montaña. y se le bra-

Figure 12. Sample from the Popol Vuh manuscript showing general inconsistency in capitalization practice. On this page of the manuscript the name Balam is written with a capital three times in K'iche', but written balam once in K'iche' and four times in Spanish—I give only part of the page showing two capitals in K'iche' and two smalls in Spanish, to save space. It is not, certainly, evidence that Spanish has no CAPITAL LETTER B. It is simply a feature of the scribe's practice.

zivan ghu chupar oher tzih tzih
 chubitje xopun ihikutan quic
 habi eae xu qui e cori tzih' are
 curi veeauit amac nabe xui-
 naquit vae maui calah vuna
 quiri' amicu chic' quidae fa
 xquitr' Balam quije Balam a
 cab acaue maha b' d' eae mi-
 xixic xohicam rumel fa x
 gha cut fa xghau cut ri' tzih'
 mixhjonie quivech chisach ri'
 eae xgha cut tzih' chi-
 que maquijih at cabauil at
 caducuk at pu cacoon at ca-
 cabauil xegha chire fa xgri' ca-
 movah ri' xubih' tzih' v' bala
 quijih in irabauil tachtuxoc in
 ivakauil tachtuxoc xevghax
 ri' ahquixb' ahcah rumat tzi-
 h' arecut quetahal ri' a
 mac que quivoh' ramal qui
 eae

antiguas tradiciones q' anduui'eror
 mucho y llegaron a balam y no tenian
 fuego, sino q' se estaba donde estaba
 el idolo tzih', q' fue el idolo de el pue-
 blo q' primero crió el fuego. y nise iabe
 como lo crió, sino q' ya r' lumbraba el
 fuego; quando lo vieron balam quije
 balam acab, mahucutah, y i qui b' am
 llamaron a i' q' no tenian fuego,
 de ese q' rebizo, y moriramos de fuego
 entonces hablo el idolo, y dixo: no es
 afflixat's, tenets con propola, en fuego
 q' de cis se acaba, y pordera q'
 ventura sera ani? dixeron, por dicha ido-
 lo fueros nuestro sustento, y ali' mento
 fu' idolo. y entonces le di'er on gra' cias
 pulo q' dixo. y dixo el estabion, de uer-
 dad yo soy Vuestro idolo, quando ama-
 meza, y i'er Vuestro i' estolo fue
 dicho a los principales por el tzih'. y asi
 se calentaban los pueblos, y alegraban
 por el fuego.

Figure 13. Sample from the Popol Vuh manuscript, showing a number of instances of TRESILLO in use in the word eae 'fire' (see fuego in the Spanish). The Balam/balam inconsistency is also found here, and the phrase oher tzih 'ancient traditions' is found, and Vuestro has a capital V.

cauizmah, y el abpop, el abpop cambia
 y ealel, y ahtzi' vinac. estes quatro i' es
 fueron ambaides, y se labaron la guerra de
 quicab, y amizimah. q' asi' i' llamaban
 el they del vido caui' quib. yoh' es d' q'
 uno i' llamaba quema. de los deniba-
 ib, y otro q' i' llamaba achay boy de
 los de ahan quiche. y estu'er on los
 nombres de los i' de los q' les emb' i' on
 y luego se fueron las i' a las montes,
 onca d' un de los cerros, y fueron
 los capitanes, y tra' geron caphuos, y
 esclaves ante el quicab, y cauizmah,
 y de los principales, y qu' uel' llos. y h' i' i'
 eron i' sobre la guerra de los, y flechas, y
 a prepararon, y caphuaron, y se h' i' i' eron
 b' i' eron guerreros, los q' au' tan pue' b
 on los parages. y se multiplicaron, y au-
 mentaron las p' uer' m' i' es q' uando
 venian a entregar las q' au' tan a p' uer-
 do, y caphuado y luego juntaron su
 con i' se fi' dos los i' y p' r' i' n' c' i' p' a' l' e' s

cauizmah, y el abpop, el abpop cambia
 y ealel, y ahtzi' vinac. estes quatro i' es
 fueron ambaides, y se labaron la guerra de
 quicab, y amizimah. q' asi' i' llamaban
 el they del vido caui' quib. yoh' es d' q'
 uno i' llamaba quema. de los deniba-
 ib, y otro q' i' llamaba achay boy de
 los de ahan quiche. y estu'er on los
 nombres de los i' de los q' les emb' i' on
 y luego se fueron las i' a las montes,
 onca d' un de los cerros, y fueron
 los capitanes, y tra' geron caphuos, y
 esclaves ante el quicab, y cauizmah,
 y de los principales, y qu' uel' llos. y h' i' i'
 eron i' sobre la guerra de los, y flechas, y
 a prepararon, y caphuaron, y se h' i' i' eron
 b' i' eron guerreros, los q' au' tan pue' b
 on los parages. y se multiplicaron, y au-
 mentaron las p' uer' m' i' es q' uando
 venian a entregar las q' au' tan a p' uer-
 do, y caphuado y luego juntaron su
 con i' se fi' dos los i' y p' r' i' n' c' i' p' a' l' e' s

Figure 14. Sample from the Popol Vuh manuscript. The word phrase ealel ahtzi' vinac occurs thrice; it means 'the prominent speaker' ('man of words'), rendered once in Estrada Monroy's edition as Calel y Ahtzih Vinac and twice as principales.

ARE V B̄IHOXIC VAE ^{EST ES SVSER DICHO QUANDO}
 Cacahin̄ic, cacah chamam oc ^{estaba suspenso, en calma, en silencio, sin}
 Caxin̄ic cacaxil̄ic, cacax ^{moverse, sin cosa sino vacío el cielo.}
 lo in̄ic, cabulona puch v
 pa chah.
 Vae xate nabe f̄ih nabe vid- ^{Yorja es la primera palabra, yolo quoncia}
 an. mahabīoc hun v̄inae, hun ^{aun no avia hombres, animales, pasados, pos-}
 chioy f̄i quin, car, fap, che ^{cado, congreso, palo, piedra, hoyo, varran-}
 abah, hul, zivun, quin, qui- ^{ca, paja, nimon te; sino solo estaba el cielo.}
 chelah; xav̄u quel cak goll̄ic. ^{no se manifestava la luz de la tierra. sino q̄}
 mani calah v̄vash v̄len; xa ^{solo estaba el mar represa de el todo del}
 v̄lu quel remanic. palo vpa- ^{cielo; aun no avia cosa alguna junta, ni}
 cak renohol, mahabī na quila ^{unaba nada, ni cosa alguna se movia, ni}
 camolob̄ic, ca colob̄ic, hun fa ^{cosa q̄ h̄ijiera, mal. ni cosa q̄ h̄ijiera, col. esto-}
 cazilob̄ic camal caban̄tah, ca ^{es ruido, en el cielo. ni avia cosa q̄ os huie-}
 col caban̄tah zacah. xma go ^{re, ni q̄ os huie e parada empie; solo el}
 v̄ina quila. goll̄ic, xacoll̄ic; xa ^{agua represa, solo la luz se le gada, so-}
 remanic ha, xal̄ianic palo, xa ^{lo ella represa, ni cosa alguna avia q̄ os}
 v̄lu quel remanic, xma go v̄i na ^{huie e; solo estaba en silencio, y silencio, en la}
 quila lo goll̄ic, xa ca chamam̄ ^{obscuridad, y la noche; solo estaba el cielo de}
 cacahin̄ic ^{formados, s̄. celebra fuerke, la ma dret.}
 chī queresum, chī arab,

Figure 15. Sample from the Popol Vuh manuscript. The CAPITAL LETTER TZ is written carefully in the first line. Paragraph initials are capitalized in K'iche' and in Spanish. The TRESILLO is found in a couple of words in the K'iche'.

tax qūnatak chīapanoc ^{parientes} ^{amanesio alla en Mexico q̄ an̄ se llama}
 chuc r̄ix̄ qū v̄inae r̄ix̄ qū ^{ma agora. y tambien en parte de la gente}
 r̄ic chīa Mexico v̄b̄inaam un ^{se queda alla en el oriente q̄ se}
 canic gōn̄ n̄aipuch chahcar ^{llaman tepen ol̄iman. y se queda-}
 v̄inae x̄qūicanah ch̄la rebe- ^{ron alla d̄ixerom. y fue grande el}
 bal qūik tepen ol̄iman qūibī ^{dolor, y pena alli d̄erui corazon es so-}
 xeca canah canoc xegha nim- ^{bre el hacaut̄. y an̄ mismo hacen}
 v̄catal̄ qūix̄ qū ch̄iri ch̄uv̄i ha- ^{aquello de el tamub, el locab. y an̄}
 cav̄ī x̄av̄i queche ca qūiban r̄i ^{en mismo estan alli en la montaña ohoq}
 rech tamub v̄locab x̄av̄i x̄ere ^{pueblo q̄ se llama Dan. alli a mana-}
 e qū v̄i ch̄iri x̄aȳa chelah amac ^{clo a los que illa del tamab, con su ydolo}
 Dan v̄bī x̄aȳa qū v̄i r̄ah qūix̄b̄ ^{q̄ an̄ mismo era tohil, q̄ uno era el nom-}
 x̄ahc̄ab̄ tamub r̄ug v̄caban̄il ^{bre su idolo, de lastr o hibun, o calpu-}
 x̄av̄i x̄ere tohil̄ x̄ahun v̄bī ^{tes del qūich̄e. y an̄ mismo es el nom-}
 v̄caban̄il r̄ox̄chob̄ichal queche ^{bre de el idolo de lastr. Rab̄inal; sino}
 v̄inae. x̄av̄i cu x̄ere ch̄ic v̄bī v̄c- ^{es, y no se diferencia el nombre, porq̄}
 ban̄il r̄ab̄inaleb̄ x̄ḡa qūin v̄had̄ ^{se llama toh. y an̄ con es una misma lon-}
 cat v̄bī hun̄ toh ch̄uḡhax̄ic v̄bī ^{gua la nuestra, con la de lastr Rab̄inal.}
 v̄caban̄il r̄ab̄inaleb̄ x̄acuchan̄ ^{y an̄ mismo es diferente la lengua de}
 x̄achirah hun̄a matak ch̄i queche ^{lastr q̄ an̄ que es porq̄ es diferente}
 ch̄i v̄ghabal. arepat̄ h̄al̄icatal̄ ^{el nombre de su ydolo quando vini-}
 nac v̄ighabal r̄ug, ^{hab̄inal.}
 x̄achegneleb

Figure 16. Sample from the Popol Vuh manuscript. Mexico is written in both K'iche' and Spanish with a capital letter, as is Dan. In K'iche', rabinal is written where in Spanish Rabinal is written, and in both lower case is used in the name Eaëchequeleb in K'iche' and Eaëchiqueles in Spanish (transliterated as cacchiqueles in Estrada Monroy's typeset edition). We are simply unlucky that the capital doesn't appear, however, as is clear from the general use of casing throughout the document. In all caps, the word would have to be EAECHEQUELEB, not *EAECHEQUELEB.

Salutacion

Para q^{do} viene, atomar poscion del j^o de la P^a lengua queche
 qualahomul **kaquicot** nu cuy, Numal mixincochik Nili vna l^o pa. **hach**,
 Nim **cut** canu camozah, Chuch Dios, utz Yachil, i' sax Vinaguit, Xavi que ha
 in i'q nu Yach. Mixin **calunic**, machi naquila, mixincul pa be. pa **hoc**
 mixilia Dios chue nu **petic**. Chupan itzilan. itinamit. Yacame in **colic**
 chire naquila. ca havax chi Vuch Numal. in tool. Vuch unpu loy **wech**
 pa Numal. unima tocbal. nu cuy chi uech. Numal cut xcah. nu Vach
 chue xiuocotah. uochoch. xiuocotah. Cut. hum nima tinamie Numal
 mana **kavah**. **puak**, ja cutzilah. Vinas quecutzucuh Numal cut nutaom
 itzilah coheic. om Numal, are'ca. Vix rugetic^o Chupan itinamit quehe
 cut quitzih. quix nulo coh quix nu too, quix nu ~~to~~ **cutlah**. pu. ue. ix
 gum eloch, gum nalcuslah. Yacame. cut. nim Canulamstach chive, nu
 Chabexic, nuta ~~to~~ **locoxic** nu **quihloxixic** Numal churatah Dios chive
 nima Natit Vquexels Chupan chitahit, ahavarena. pa uti Dios. ca
 havixel. Dios Cahlatxel. Uxlatixel. Spiritu s. Amen.

Figure 17. Sample from the Popol Vuh manuscript. Circled are words using the TRESILLO. The manuscript gives kaquicot; Estrada Monroy transliterates this as kaquicot. The editor is not consistent, wavering between k and c because he has no TRESILLO: cut/cut, calunic/calunic, hoc/hoc, petic/petik, colic/kolic, kavah/kavah, puak/puak, locoxic/locoxic, quihloxixic/quihloxixic. The disjointed c + inverted breve form of the TRESILLO is seen throughout.

NOMBRES DE YERBAS COMESTIBLES. 11.

Echa. — Genérico. —	Todo o genero de Yerba.
Paçay. —	Los Palmitos.
Rehan paçay. —	Las Pacayas.
Rutum paçay. —	La Flor: ò disciplinas.
Rucheel paçay. —	Los Palmitos monteces.
Bohon. —	Los Bozones.
Buznay. —	Los Buznayas.
Pay. —	La Oja de Santa Maria.
Much. —	Los Chipilines.
Mahcuy. —	Los Quiletes.
Caknah: Tzetç. —	Los Bledos.
Shimay. —	Los Chayotes.
Rutzam shimay. —	Las Puntas de Chayote.
Ruxç chimay. —	El Ychintal.
Quinaε. —	Los Fríoles.
Raxquinaε. —	Los Exotes.
Cakiquinaε. —	Los Fríoles blancos.
εakaquinaε. —	Los Fríoles colorados.
Cahlic. —	Los Fríoles pequeños.
Piloy. —	Los Fríoles grandes.

Xet:

Figure 18. Sample from Pantaleón de Guzmán 1704, showing capital CUATRILLO in *Shimay* and Capital TRESILLO in *εakaquinaε*. (Image provided by Michael Dürr.)

chupam numebail hay, xata rumal alantoilah tziñ xticolo:
tahvi vanima, nugarlibal taomatahtah. ^{255.}

DESPVES DE LA COMVNIO.

Xechan okga Santo Sacramento, tibijx.
Ah kooki Santoilah vaim techaxvi kanima aha:
val Jelu Christo, tanga timuluquix rigovibal rupal:
sion, tantitzuk kagazlibal chi oracia, tanga tiya chi:
kichin tikalem riboyelal tuoforia koyoben. Amen
Jesus.

ALABADO.

Tikutzbijhtah, tikutz *ε*hartiçah tape ruloelolah tiohil, qui.
gel kanima ahaval Jelu Christo tangoh chiuvach altar,
chupam ruloelolah; çakil, ghughuhil Santoilah vay, vtzi
çan hollia Santissimo Sacramento rubijnamvi. Xavi
ga quete tikutzbijhtah, tikutz *ε*hartiçah tape kialoemah
te xoehauh Santa Maria chupam tuqueheric, ru:
gohebic, rumaijhalah Conçepcion tucheex: Chi xax
manibila vi ruputuquil, tuotelecal alaxibal mac chirih:
Conçepcion kochachirichin. Quere octax. Amen Jesus.

ORACION PARA QVANDO

CAN EL AVE MARIA.

Vae:

Figure 19. Sample from Pantaleón de Guzmán 1704, showing H and HENG in *ε*hartiçah.
(Image provided by Michael Dürr.)

hun tulul gatur ... tuiul ahinae chi
 loou vuach hunodie chigace ye tumalxcha
 vios.nhu. @ hu chitulu latamabal tulul
 vbi axebbi naamui atama bastulul achi
 nae chilou vic chiteiah vtz chixetamahvq
 chixetamah maui vtz quehegut vgo heye
 caybtululri
 D dah pahzih vuabaxica dan d hupa
 Parayssoterranal x^u dios.nhu. varalcat
 o cho chin vni xcha dios.nhu. varal nichat
 amae labui xuchaxie x^u dios nnu quehegut
 taxmolo baxghutichieq nimachieq chich x^u
 D.nhu. queabi naticah chaucue cahpibi
 chigua hukunaxuchaxie x^u dios nima ahan
 xa vtuguet adan **xgakic** xbit puch x^u dios
 nimaqui cotem nimaak amae xgohoui nima
 qui cotem lianic eu cahit amae xuyadij chi
 xech giz zech xonohat vgniyi vku cil vgo
 gat vparayssoterranal age caybtzi
 qwin palomaring sagu gubah qm chi qm vuach
 scu bay vgu x taxugux lah gut adan taxubiq
 chixech dios nhu. lat dios nima ahan chiyatan
 la vach ahgw cotel vach ghabel vach tzi ho
 nat yngak ha yubi + laxcha chixoch D.nhu

Figure 20. Sample from Carmack and Mondloch 1983, showing the barred glyph variant of cuatrillo with comma in *xgakic*. (Image provided by Michael Dürr.)

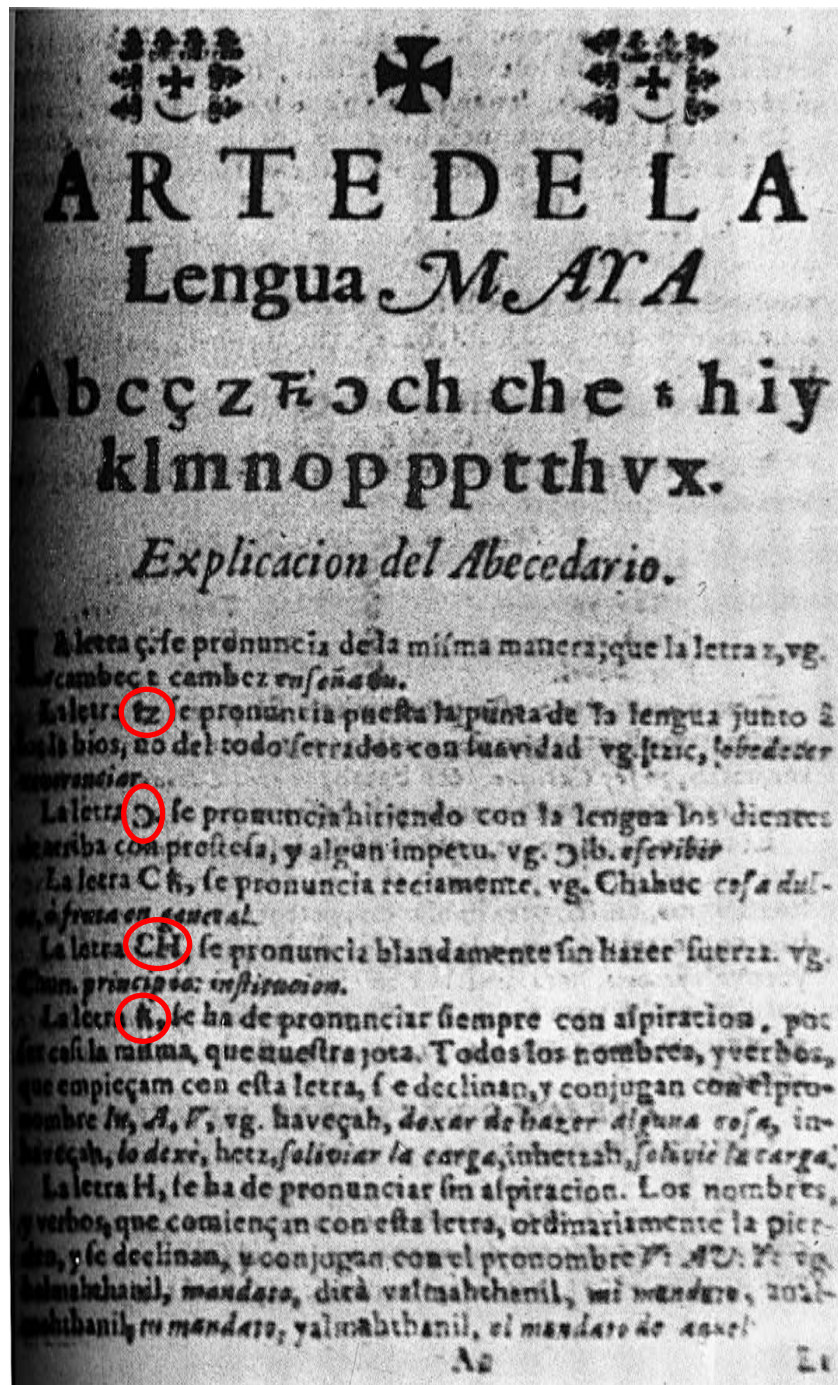


Figure 21. Sample from San Buenaventura 1684, showing a TZ ligature, a CAPITAL REVERSED C, a CAPITAL TRESILLO followed by CAPITAL H, and what I believe is a HENG from the description given. The typography here is fairly crude; a turned c instead of a reversed one is used for the lower-case version of the capital reversed c. (Image provided by Michael Dürr.)

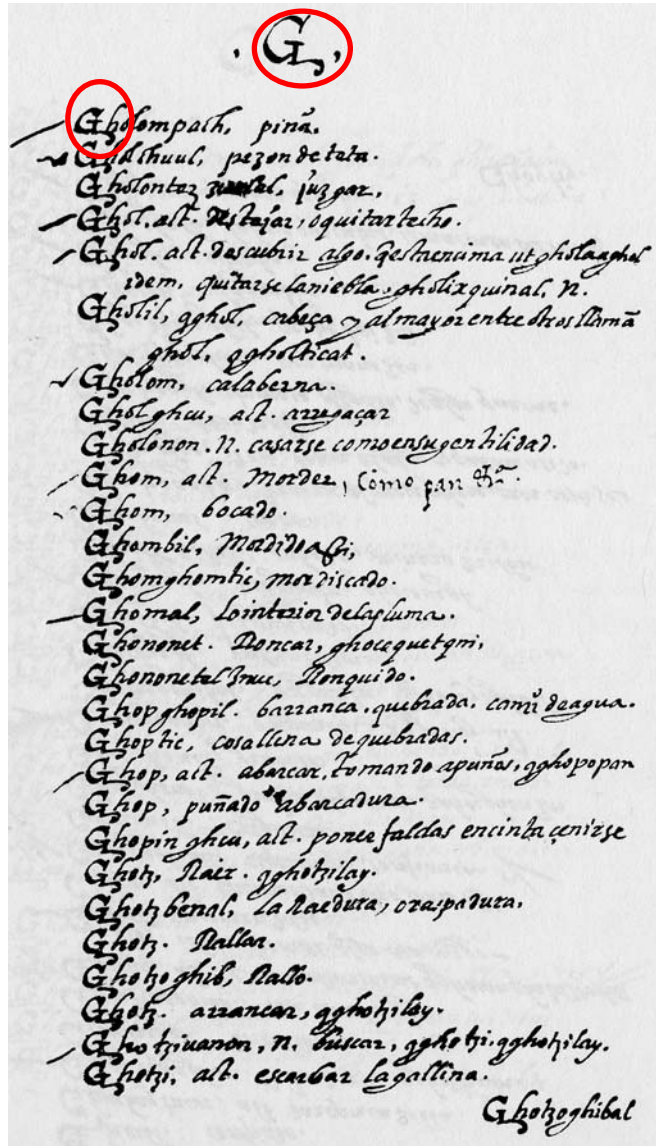


Figure 22. Sample from Ara 1571, showing what Michael Dürr describes as a G rather than a CUATRILLO. It's a grey area, to be sure, but I'd tend to call this glyph a G-like cuatrillo unless Domingo de Ara uses it in Spanish as well. The lower-case cuatrillo is certainly g-like, as we have seen elsewhere. But G-like and g-like glyphs are not proposed for modern encoded cuatrillos. (Image provided by Michael Dürr.)

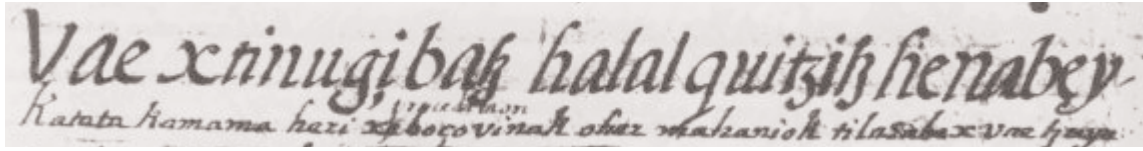


Figure 23. Sample from the *Annals of the Cakchiquels* in Otzoy Calí's 1999 edition, showing CUATRILLO WITH COMMA in *Vae xtinugibah' halal quitzih he nabey,* which Brinton rewrote in all capitals (an editorial choice involving casing!) as “VAE XTINU4IBAH HALAL QUITZIH HE NABEY”. Brinton did not distinguish between HENG and H. (This and the other scans from this work were provided by Charles Riley.)

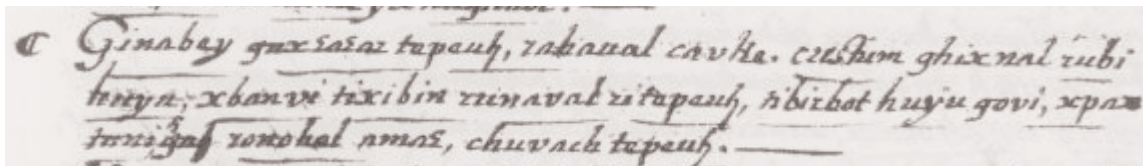


Figure 24. Sample from Otzoy Calí 1999, showing the G-form CAPITAL LETTER CUATRILLO in *Ginabey gax xaxar tepeuh,* which Brinton wrote as “4i nabey 4a xaxar Tepeuh”.

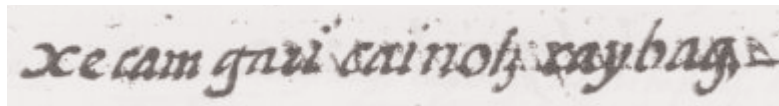


Figure 25. Sample from Otzoy Calí 1999, showing the text *xecam gari cainoh cayba,* (note punctuation comma) which Brinton rewrote as “Xecam 4a ri Caynoh Cayba4.” (note full stop and the lack of italics).

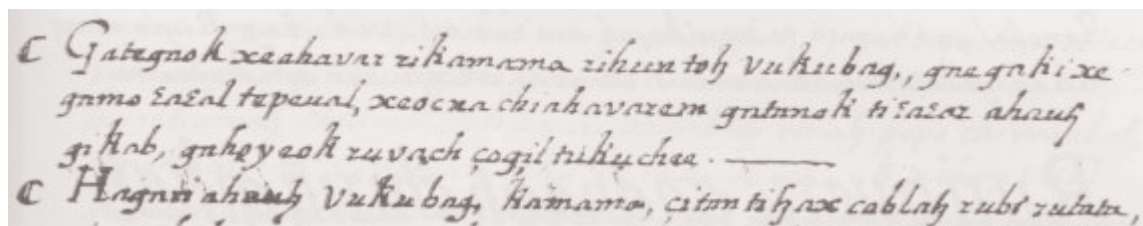


Figure 26. Sample from Otzoy Calí 1999, showing the text *Gategaok,* which Brinton rewrote as “4ate4a ok”. The name *çogil* can be seen in the centre of the third line; Brinton rewrote that as “Ço4il”.

TABLE xx - Row 2C: LATIN EXTENDED-C

	2C6	2C7
0		ḥ
1		
2		
3		
4		
5		
6		
7		
8		ɛ̣
9		ɛ̣
A		ɟ̣
B		ɟ̣
C		ɟ̣,
D		ɟ̣,
E		ɟ̣̣
F	Ḥ	ɟ̣

G = 00
P = 00

TABLE XXX - Row 2C: LATIN EXTENDED-C

hex	Name	hex	Name
60	(This position shall not be used)		
61	(This position shall not be used)		
62	(This position shall not be used)		
63	(This position shall not be used)		
64	(This position shall not be used)		
65	(This position shall not be used)		
66	(This position shall not be used)		
67	(This position shall not be used)		
68	(This position shall not be used)		
69	(This position shall not be used)		
6A	(This position shall not be used)		
6B	(This position shall not be used)		
6C	(This position shall not be used)		
6D	(This position shall not be used)		
6E	(This position shall not be used)		
6F	LATIN CAPITAL LETTER HENG		
70	LATIN SMALL LETTER HENG		
71	(This position shall not be used)		
72	(This position shall not be used)		
73	(This position shall not be used)		
74	(This position shall not be used)		
75	(This position shall not be used)		
76	(This position shall not be used)		
77	(This position shall not be used)		
78	LATIN CAPITAL LETTER TRESILLO		
79	LATIN SMALL LETTER TRESILLO		
7A	LATIN CAPITAL LETTER CUATRILLO		
7B	LATIN SMALL LETTER CUATRILLO		
7C	LATIN CAPITAL LETTER CUATRILLO WITH COMMA		
7D	LATIN SMALL LETTER CUATRILLO WITH COMMA		
7E	LATIN CAPITAL LETTER TZ		
7F	LATIN SMALL LETTER TZ		

A. Administrative

1. Title

Revised proposal to add Mayanist Latin letters to the UCS.

2. Requester's name

Michael Everson

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

Individual contribution.

4. Submission date

2006-04-10

5. Requester's reference (if applicable)

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.

Proposed name of script

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

Yes.

1b. Name of the existing block

Latin Extended-C.

2. Number of characters in proposal

10

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 letters.

5a. Is a repertoire including character names provided?

Yes.

5b. If YES, are the names in accordance with the 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.

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)?

Casing is addressed.

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.

Functions and properties are like all Latin capital and small letters.

C. Technical – Justification

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

Yes. N3028

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

Yes.

2b. If YES, with whom?

Michael Dürr, Berlin; **Thomas Larsen**, Portland State University; **Lyle Campbell**, University of Utah; **Judith Maxwell**, Tulane; **John Robertson**, Brigham Young University; **Charles Bigelow**; **Sergio Romero**, University of Pennsylvania

2c. 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?

No.

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

These are rarely-used characters used in historical Maya texts.

4b. Reference

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

There are font implementations used by some specialists.

5b. If YES, where?

See the figures above.

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

Keep with other Latin letters.

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

If possible.

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

No.

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

8c. If YES, reference

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?

No.

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

10c. If YES, reference

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)?

No.

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

11c. If YES, reference

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