TO: ISO/IEC JTC1 SC2 Working Group 2 and UTC FROM: Deborah Anderson, UC Berkeley DATE: 8 April 2006 RE: Expert Input on "Proposal to add Mayanist Latin letters to the UCS" N3028 (=L2/06-028)

Executive Summary:

This document provides feedback received on the evidence for uppercase tresillo and cuatrillo and whether these characters are should be included in Unicode and ISO/IEC 10646. The initial query went out over the email list LinguistList. A number of experts were sent email queries separately. There were nine responses, included below.

Evidence for Attestation

Michael Dürr (#1) and Thomas Larsen (#2) both checked the sources available to them (including manuscripts, facsimile editions, and printed books) and have found that the uppercase forms do occur, albeit rarely and not consistently. As noted by Larsen (#2), uppercase—which is a lowercase modified in various ways—appears at the beginning of paragraphs in the Annals of the Cakchiquels, in handwritten dictionary entries in Calepino en Lengua Cakchiquel, and for cited words in Compendio de Nombres en Lengua Cakchiquel. (Campbell [#3] also mentions attempts at printing case distinctions.)

Reasons to Encode (or Not) in the UCS

In spite of the inconsistency in their use, most respondents were in support of including these characters in the UCS for the following reasons:

- Though the original texts do not use uppercase in the conventional way (i.e., at the beginning of sentences, etc.), the characters' inclusion would make it possible to print the original text accurately (Maxwell #4, Robertson #5, Bigelow #8);
- The uppercase would be useful for printing normalized editions and would also permit specific forms to be cited at the beginning of a sentence (Campbell #3);
- The characters would be available for use by present-day Kicheans in their writing and in other forms of media, as well as for use by those creating colonial era Kichean teaching materials and doing transcriptions (Bigelow #8, Romero #9);
- The Popol Voh is an important literary work on par with Homer's epics, and as such it should be accorded the same type of typographic respect given to classics in the Western tradition (that is, Kichean orthography, even if obsolete, should receive our modern typographic case distinction, cf. the situation with Coptic) (Bigelow #8).

However, Robertson (#5) felt that "correct[ing] the colonial scribe[s]" was not something he would do, and Christensen (#7) was not inclined to introduce a case distinction missing in the original text.

Glyphs

Dürr (#1) and Larsen (#2) also provide comments on the glyph shapes (i.e., do not rely on Brinton, the cuatrillo may appear as a "G", and a recommendation by Dürr to modify the Tz glyph). A few other comments are included on other characters that might be eligible (i.e., h with tail).

Scholars Contacted

- Michael Dürr, Berlin
 Thomas Larsen, Portland State University
- 3. Lyle Campbell, University of Utah
- 4. Judith Maxwell, Tulane
- 5. John Robertson, BYU

- 6. William Bright, University of Colorado
- 7. Allen Christenson
- 8. Charles Bigelow
- 9. Sergio Romero, Univ. of Pennsylvania

Comments on considering the inclusion of tresillo y cuatrillo in Unicode

Preliminary note:

All data come from handwritten manuscripts although there exist a few samples of printed colonial Quiche texts, as, e.g., portions of the Bible. These extremely rare printed books should be consulted as well, but at the moment are inaccessible to me.

Answer to your question concerning the existence of capital letters:

There is evidence for the distinction of small and capital letters mainly from handwritten dictionaries and grammars. The use of capital letters in all manuscripts is in general extremely rare and inconsistent.

Comments on the shape of the letters:

The typefaces used by Brinton are ideosyncratic and should therefore not be considered as a basis for designing the new characters.

In my opinion the character 2C78 and 2C79 should have a more ε - and ε -like shape.

The use of <4> seems to be a fair choice, although in a number of manuscripts it has a very-g like shape, and in at least one manuscript from Chiapas (Vocabulario tzeldal) is given as <G>.

Also more $\langle E \rangle$ - and $\langle z \rangle$ -like letters should be preferred to represent 2C7E and 2C7F, i.e., ligatures of latin capital letter $\langle T \rangle$ + latin small letter $\langle z \rangle$ and small letter $\langle t \rangle$ + small letter $\langle z \rangle$ respectively.

The letter <z> has in most manuscripts from the 17th and the beginning of the 18th century a shape similar to old German (Fraktur-like). This is the base of Brinton's character. But in print and in typeface-like handwriting it becomes evident that the character is nothing else but <z>.

<4,> is sometimes, as, e.g., in the Título de Totonicapán, written as barred <4>.

If the distinction is relevant: in contrast to tresillo and cuatrillo < z > and < 4, > are ligatures and not true letters of their own.

Suggestions for additional letters:

As an additional character even used in print the letters <D> and <D> (horizontally mirrored to correspond capital letter) should be considered that represents the glottalized correspondence/ts'/of <tz>/ts/in Colonial Yucatec.

Moreover another additional h-like letter (similar to <h>) is found in some colonial manuscripts and even in print. In Quiche and Cakchiquel its use seems to be restricted to the end of words so that it can be interpreted as a final variant of <h>.

2. Tom Larsen (whose Ph.D. dissertation was "Manifestations of Ergativity in Quiché Grammar," U.C. Berkeley, 1988), Database Management and Catalog Librarian Branford Price Millar Library, Portland State University

From: larsent@pdx.edu

Message #1 Date: Tue, 28 Mar 2006

Wow! Tresillos and quatrillos in Unicode. Cool! Are they also going to do the "h" with a tail?

Anyway, I have never been aware of a distinction between upper and lower case tresillos and quatrillos, but then I don't really recall ever looking for them either. I don't have any Colonial K'ichee' stuff available here at work, but when I get home, I'll look through the stuff I have there to see if I can see any evidence one way or the other.

But even if there wasn't any distinction, I kind of have to agree with those folks who think that it might be useful to be able to make such a distinction if you wanted to. I'm pretty sure there were upper and lower case forms used for the other letters. Anyway, I'll let you know what I find out.

Message #2 Date: Thu, 30 Mar 2006 10:35:41 -0800

I checked some K'ichee' and Kaqchikel materials that I have at home. I checked five different sources, and here is what I found.

Popol Vuh (Facsimile edition from the 1970s; original is an 18th century hand-written copy, if memory serves) - This uses upper case letters for the first letters of major sections. However, I was not able to find any examples of major sections that began with tresillo or cuatrillo. This probably shouldn't be a surprise because the copyist of the manuscript only used the Parra letters very sparingly, and even then not always accurately.

Annals of the Cakchiquels (Facsimile edition from the 1950s; original is a manuscript written in various hands in the 16th-17th century) - This has upper case letters as the first letters of paragraphs. I found numerous examples of upper case quatrillos. The upper case cuatrillo is taller and wider than the lower case. The tail extends farther below the line and curves farther to the left. The upper part is rounder than the lower case and is open at the upper right. I also found a few cases of an upper case G used in the Spanish name Gaspar. This upper case G looked to me identical to the upper case cuatrillo. I didn't see any examples of an upper case tresillo.

Arte de la Lengua Metropolitana del Reyno Cakchiquel o Guatemalico ... by Fray Ildefonso Joseph Flores (18th century printed book) - This generally cites individual example words with initial upper case letters. However, the initial tresillos and cuatrillos looked identical to the non-initial ones. So apparently they weren't distinguishing upper and lower case cuatrillos and tresillos in this work. (Perhaps because they didn't have them in their type set?) Calepino en Lengua Cakchiquel by Fray Francisco de Varea (18th century hand written manuscript) - The dictionary main entries all begin with initial upper case letters. The upper case cuatrillo was generally the same as the upper case cuatrillo I saw in the Annals of the Cakchiquels. In some cases, though, it was closed at the upper right in the same way as the lower case one. The upper case tresillo was often slightly taller and wider than the lower case one, but sometimes it wasn't, and sometimes it was hard to tell for sure.

Compendio de Nombres en Lengua Cakchiquel (Facsimile edition from the 1980s; original was an early 18th century printed book) - Cited words all have initial upper case letters. The upper case cuatrillo is identical in size and shape to the lower case one except that it is raised up so that the bottom of the tail rests on the line whereas with the lower case one the horizontal line of the body sits on the line and the tail hangs down below the line. The upper case tresillo is a little taller and wider than the lower case one.

So it looks to me like in some works they did try to distinguish upper and lower case tresillos and cuatrillos while in some others they didn't. The ones who did distinguish these seem to have done it in slightly different ways.

Other points.

1. The proposal quotes Brinton's edition of the Annals of the Cakchiquels a lot. You can't really rely on Brinton, though, since as the proposal author points out, he had the whole text re-typeset. I haven't actually looked at Brinton in a long time, so my memory of it is a little dim. But I notice he is cited as saying that there is a "cuatrillo with comma and h". I don't recall that Brinton actually said that; but if he did, I think he must be wrong. I've never ever seen a cuatrillo with comma and h, and I can't even imagine what it might represent. I've seen cuatrillo with comma, and cuatrillo with h, but never cuatrillo with both comma and h. But I guess that's a moot point anyway because it looks like the author of this document is not proposing a cuatrillo with comma and h for Unicode anyway.

2. I found it rather curious that the proposal says that no facsimile edition of the Annals of the Cakchiquels exists. In fact there was one published in Denmark in the 1950s. Of course it's long out of print and hard to find. But it is available through interlibrary loan through some libraries. There was also another facsimile edition published recently in Guatemala. I think the original manuscript lives in some library somewhere in the U.S. I forget which one.

3. My opinion on the tresillo glyphs in the proposal: The lower case one looks like it leans too far to the right, and the upper case one just looks odd. I suppose that's just a matter of aesthetics.

4. On the h with tail: In K'ichee' and Cakchiquel works that use the Parra letters, the h with a tail was frequently used in word final position while initial and medial h's were generally plain h's (sometimes upper case in initial position). I have, however, seen a few cases of h with a tail used in word initial position. Some people have speculated the h with a tail may have been an attempt to distinguish a uvular fricative sound, which tends to be more prominent in word final position, from a more h-like pronunciation of the same phoneme, which tends to appear more often in initial position. But it could also possibly just be an extra added flourish to the word final h. I don't know. In any case, the h with a tail looks just like the ordinary lower case h except that the rightmost leg has an extra hook which hangs down below the line. This hook starts out going to the right but curves back around and ends up pointing to the left, forming almost a little semicircle hanging off of that right leg.

3. Lyle Campbell, Professor of Linguistics, Director of the Center for American Indian Languages, Dept. of Linguistics, University of Utah

From: Lyle Campbell <lyle.campbell@linguistics.utah.edu> Date: Tuesday, April 04, 2006 7:13 PM

I think my reasoning about uppercase for tresillo and cuatrillo (perhaps not compelling) is that later typescript renderings (publications) of colonial manuscripts with the tresillo and cuatrillo have (some anyway) attempted uppercase version, and there is actually a considerable body of literature involving re-editions of colonial texts and then there are the numerous works citing/quoting old materials that used these symbols, and they do need the upper-case possibility. Some have attempted uppercase for them where relevant; some of those who have not used uppercase forms, I believe, have not used them only because they were willing to allow the limitations of their typewriters to constrain them (with only 3 and 4 without case differences as the basis upon with to build).

I personally have struggled with what to do with these sorts of graphic limitations (in precomputer days) and definitely wanted uppercase possibilities.

I looked at your proposal, which is good. If you would like comments, here are a few:

The names of the languages now all have expected modern spellings (from the Academy of Mayan languages and the Guatemalan government) -- it would be good to use these or at least list them with your older spellings, e.g.: Kaqchikel (Cakchiquel), K'iche' (Quiché), and Tz'utujil (Tzutujil).

For Cuatrillo with Comma and H, probably alveolo-palatal should be changed to alveopalatal or palato-alveolar (the two standard linguistic terms for this).

I think what you have in the website you sent me is an excellent case for documenting these symbols and the need for uppercase.

I hope this helps.

4. Judith Maxwell, Assoc. Professor of Anthropology, Director of the Interdisciplinary Program in Linguistics, Co-Director of the Kaqchikel Mayan Summer Program in Guatemala, Tulane University

From: "Judith M. Maxwell" <maxwell@tulane.edu>

Message #1 Date: Mon, 27 Mar 2006 17:43:29 -0600

It would be helpful for those trying to provide typescripts that preserve the flavor and style of manuscripts. I have worked with 16th century and 17th century documents in Kaqchikel, K'iche', and Nahuatl. Both the former need tresillo and cuartillo. I have access to a set of Q'anjob'al and Chuj documents from the early colonial period as well. The former would also need these symbols.

Message #2 (in response to a question about the specific use of uppercase) Date: Monday, March 27, 2006 7:11 PM They don't use capitals and lowercase as modern texts do, but line initials and some phrase initials may be different sizes. Often in lieu of punctuation.

5. John Robertson, Professor of Linguistics, Brigham Young University

From: John Robertson <john_robertson@byu.edu> Date: Thu, 23 Mar 2006 14:02:39 -0700

Hmmm. This is something I hadn't spent a lot of time thinking about. My sense is that it is useful to be able to copy exactly (or as closely as possible) the manuscripts from colonial times. I would not choose to follow rigidly modern conventions and capitalize sentence beginnings and proper names to "correct" the colonial scribes. The degree to which upper case would be useful in my work is the accurate typographic representation what the ancient grammarians and lexicographers wrote by hand. I might add that there are a lot of grammars and dictionaries that deserve more attention.

6. William Bright (who studied Kaqchikel in Guatemala), Professor Emeritus of Linguistics & Anthropology, UCLA; Professor Adjoint of Linguistics, University of Colorado, Boulder; Editor, *Written Language and Literacy* and *Native American Placenames of the United States*

Date: Monday, March 27, 2006 10:55 AM (email: william.bright@colorado.edu)

the colonial spanish grammarians in guatemala simply didn't distinguish upper case from lower case tresillo and cuatrillo.

7. Allen Christenson, translator of Quiche Popol Vuh, (*Popol Vuh: The Sacred Book of the Maya*, O Books, Winchester, 2003), compiler of an on-line Quiche dictionary, http://www.famsi.org/mayawriting/dictionary/christenson/index.html, and author of publications involving colonial Quiche

From: "Allen Christenson" <allen_christenson@byu.edu> Date: Tue, 28 Mar 2006 08:52:11 -0700

I see no reason to use

lower-case forms that weren't used in the colonial period. The de la Parra adaptation of the Latin script used in 16th century highland Maya documents never used lower and upper case for the tresillo and cuatrillo so it would be something of a modern construct foreign to the original intent to adapt it now. Best, Allen Christenson

8. Charles Bigelow, font designer (currently working on a K'iche' dictionary with Professor Pam Munro, Dept. of Linguistics, UCLA)

From: Charles Bigelow <cbandh@usinter.net> Date: Thu, 30 Mar 2006 15:01:59 -0800 Whatever we think we can know about colonial Kichean orthography, vis-à-vis capitals vs. lower-case, we are not in colonial times now. Therefore, we should ask, how will these characters be used in the real world?

I can think of a few possibilities. One is that colonial manuscripts may be published in typographic editions in which the tresillo, cuatrillo, and other Parra letters will be used to accurately represent the original graphemes.

Another possibility is that there may be some people who will want to teach colonial era Kichean languages K'iche'/Quiché, Kaqchikel/Cakchiquel, Tz'utujil/Tzutujil, so in teaching materials, transcriptions,

notes, etc., the tresillo and cuatrillo will be needed. Sort of like studying Beowulf or Sir Gawain and the Green Knight, where characters like the edh, thorn, yogh, are used. It's nice to have good typographic renderings of the ms. forms.

There may be other textual uses of the characters, for example, again thinking of Old English, to lend an archaic or traditional flavor to a modern book. Many recent grammars of Mayan languages have chapter numbering and sometimes page numbering in the old Mayan hieroglyphic numerals. See, for example, "Gramática K'ichee" by Candelaria Dominga López Ixcoy, Cholsamaj, Guatemala, 1997, or Sam Colop's *Popol Wuj, Versión Poética K'iche'*, Cholsamaj, 1999.

So, it is possible that modern Kicheans might want to use the tresillo and cuatrillo for modern documents to give them a venerable typographic flavor, rather like quaint shops and pubs use the old blackletter 'y' to represent the Old English thorn in Ye Olde Tea Shoppe or Ye Olde English Pubbe.

Moreover, I think that any Kichean literates using tresillo and cuatrillo in modern times would be influenced by the standard modern Mayan orthographies that use capitals and lower-case in the modern Euro-American fashion (excepting when the IPA or other phonetic alphabets are used for phonetic transcription and discussion of phonology in grammars).

In particular, in modern K'iche' and Kaqchikel orthography, there are capital and lower-case forms for those ejective phonemes (usually spelled K' and Q'), and they can occur at the beginnings of sentences or in words that may be capitalized.

Sam Colop's edition of the Popol Wuj is in the modern orthography, and begins lines and verses with capitals, some of which are the glottalized Q' and K'.

Someone might want to render a version of Sam Colop's poetic version of the Popol Wuj in the original colonial orthography. To match his modern version, which uses capitalization to mark versification, proper names, etc., a colonial style version would need capitals for 3illo and 4illo,

Would anyone want to make such a text? I don't know, but they might, and if they did, they would need case.

As I showed in my recent Unicode talk, the expansion of typographic semiology has been going on since the 15th century, and the bifurcation of the alphabet into capital and lower-case forms is a fundamental development that was strongly influenced by Latin typography for Greek, Cyrillic, and Armenian orthographies.

The Popol Wuj is a literary epic on the order of the Greek and Roman classics, so it deserves the same kind of typographic respect we give the classics in our western tradition. And I see no reason that Kichean orthography, even if obsolete, shouldn't have our modern typographic case distinction.

Furthermore, several traditionally case-less scripts, including Coptic (U+03E2-03EF), Cyrillic Ustav and Polu-Ustav (U+0460-0481), archaic Greek sampi, digamma, etc. (U+03D8-03E1), have been augmented with "case" in Unicode, something they never had traditionally, not even in 20th century typography.

If Unicode can augment European scripts and orthographies, then I think it should augment colonial K'iche' as well. Just in case it's needed, and to be fair. Fairness is important. Just because the colonial Quiché scribes and Spanish priests have no one to plead their cause, doesn't mean we shouldn't be scrupulously considerate of their work in adapting it to the modern age.

These are my thoughts based on the "logic" of how Unicode seems to have done things in the past. However, there is another issue. In the history of scholarly grammatology, there was a regrettable tendency to denigrate the indigenous Mayan writing system (see, for example, I. J. Gelb's *A Study of Writing*, U. of Chicago, 1963, pp 51-59.) Latin/Spanish-based colonial Kichean orthography is of course quite different from the indigenous hieroglyphic/syllabic script, but to say that we shouldn't implement case distinctions for the Parra letters seems to echo the discriminatory attitude of an earlier generation of scholars, not that I am saying anyone in Unicode today would share such attitudes. Perhaps I am just being overly sensitive to the possibility of such an accusation.

So I'd rather include a few extra capitals that may not be often needed, than to deny them entry into Unicode.

9. Sergio Romero, Dept. of Linguistics, University of Pennsylvania

From: sromero@babel.ling.upenn.edu Date: Sat, 01 Apr 2006 10:36:30 -0500

I am writing to give my strongest support to Mr. Everson's initiative to add uppercase CUATRILLO and TRESILLO characters to Unicode. For philological work on Kichean languages, such as my own, it would be most useful. The material I have include transcriptions of deeds in K'ichee' (Princeton), Colonial grammars of K'ichee'/Tz'utujil (Newberry Library, Chicago), various chronicles and letters (Archivo General de Centroamerica, Guatemala City), a transcription of the "Titulo de Totonicapan", published in facsimile by Carmack & Mondloch, and a transcription of the "Memorial de Tecpan-Atitlan".

Tables:

STOPS AND AFFRICATES		GLOTTALIZED STOPS AND AFFRICATES	
grapheme	phoneme	grapheme	phoneme
	/p/	<pp></pp>	/p'/
<t></t>	/t/	<tt></tt>	/t'/
<1z>	/ts/	<4,>	/ts'/
<ch></ch>	/tʃ/	<4h>	/tʃ`/
<c>/<qu></qu></c>	/k/	<4>	/k'/
<k></k>	/q/	<٤>	/q/
<h></h>	/h/ and/or /x/ variant of <h> in final position</h>		

Colonial Quiche and related languages of highland Guatemala (e.g. Cakchiquel)

Colonial Yucatec (according to Buenaventura 1684)

STOPS AND AFFRICATES		GLOTTALIZED STOPS AND AFFRICATES	
grapheme	phoneme	grapheme	phoneme
	/p/	<pp></pp>	/p'/
<t></t>	/t/	<tt></tt>	/t'/
<12>	/ts/	<c></c>	/ts'/
<ch></ch>	/tʃ/	<8h>	/tʃ`/
<c></c>	/k/	<4>	/k'/
<h></h>	/h/ and/or /x/		

chupam numebail hay, xata rumal alantoilah njh xnicolo; tahyri vanima, nugarlibal taEomatah tah. DESPVES DELA COMVNIÕ.	Kechan oktan Santo Sacramento, tibix Ah kook santoilah vaim tedraxvi kanima aha- val elu Chrillo, tanga timuluquix rigovibal mpal sion, tantituk kagazilibal chi oracia, tangatiya chi fichin rittalem riboyelal unoloria koyoben. Amo Jeus. ABABADO Tikutbijhtah, tikut Etharnich pape rulosolah tiohil, qui ele Kanima ahaval Jelu Chrilto tangoh tivada ahar, dupam rulosolah, çakil, qhuqhuli Santoilah vay, vi ga quere tikutbijh tah, nitur Saharnicah tape kalosmaly aquere tikutbijh tah, nitur Saharnicah tape kalosmaly pa quere tikutbijh tah, nitur Saharnicah tape kalosmaly aquere tikutbijh tah, nitur Saharnicah tape kalosmaly congegion kocha chiridim. Quereotura. Amolen Dagoton thocha chiridim. Quereotura. Amolen Bartina vi rupurusquil, nucelecal alaxibal macchirih: Congegion kocha chiridim. Quereotura. Amolen Bartina vi rupurusquil, nucelecal alaxibal macchirih: Congegion kocha chiridim. Quereotura. Amolen Bartina vi rupurusquil, nucelecal alaxibal macchirih: Congegion kocha chiridim. Quereotura. Amolen
COMESTIBLES.	Edra Generio Todo oenecode Yerba. Patay Los Palmitos. Ruhumpastay Las Pacayas. Ruhumpastay Las Pacayas. Ruhumpastay Las Pacayas. Ruhumpastay Las Parayas. Bohon. Los Balantos monteça. Bohon. Los Barnaye. Paray. Las Burnaye. Mahuny Los Buenas. Mahuny Los Buenas. Much. Los Buenas. Mahuny Los Buenas. Rutzam dinnay. Los Bledos. Annay Los Bledos. Annay Las Puntas de Chayore. Ruce chimay. Las Puntas de Chayore. Ruce chimay. Los Bledos. Piloy Los Fridoles colorados. Calitadias pequerios. Piloy Los Fridoles colorados. Ket:

From: Pantaleón de Guzmán: Compendio de nombres en lengua Cakchiquel. 1704. México 1984

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Robert M. Carmack and James Mondloch (ed.), El Título de Yax y otros documentos ... México 1989 Robert M. Carmack and James Mondloch (ed.), El Título de Totonicapán ... México 1983

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hul tucuez /1 gama Se Rum. (Chigotuk) chicak yus. 11 Coha. 11 al quzuya. 11 cutum. 11 ghixnal. 11 molobak. 11 toxgomine. 11 tuljallahay. Ovchababay. 11 af ghumilahay. 11 Lamasi. 11 cumati 11 Rapak. 11 Chi chalg- 11 Vxa. 11 ahalquil. 11 molomic abab. 11 C mon pokom -11 nacuxcux. 11 bulbuxiya. 11 panah. 11 Chiholom . 11 Saka çivan. 11 Susuhuyu. 11 C gax gan . 11 Vukuçivan. 11 xezahapit 3 C Ronohel gatinamit zi xquikacaf can huntoh, vukubag; Ruginahaug gikab, galasabernok tinamit chiavar ok xquiban can kamama. Rutiquetic gaghaoh chitik gikab

ok xtiqueryn ghash, Chizily ahauh gikab, zumage chevinak, xavi ruchinamital about, synce ghach xax gig ruchinamital abaselphine. cohol nimak achij; the Rulrichin, maquichitaly xhitori algabol xaho ge che vinak, xax sah zambey akan, zuma gechavinak, xax maquivign x zaho ahauh he po Ron xezuna ahauh zinimak achij; Maquixe zuyazihitol quy, Querega xbevi chizih shauf zi zuma ge che vinak, Xnx quichup quisasnl. ____

C Haga cay sugahol about tanque sasas tatayac subi hun, at y tasubi hun chic, chituy qual nay, quibi he cay chic, xavie qui gahol abaua, he ga xerach gul chigh ge che vinak si, xthonak ga chi si chin abaut cuma sugahol xaxmaqui chi viga xeruya sihi tol qui, epo kon xeruna si tukul zi chin, que sega xbe vi chi si fahaut, zi cuma sugahol. xax sugan viga ti cako vi qui vach chine qui tata, zi tatayee ahy ta, quibi, xax qui hi sub sahauarem ahaut, xqui sayih ga suzit supu vak ralabil suvinak qui tata, tok xu popoh garutih ga che vinak chiquit mimak achij, tukul zi chin ahout, xegi cam conobel sunabay tuhul zi chin ahout.

C Vaga quibi cahaval nimak achice berech II tasuni. Il xhuguy. Il eventac. II açacot. II cama chat. Il quibi. hi hih giyatak cal quigahol, zi hutak ghob, chiah popo, mani chiga xeguluben ahauf cuma ok xe-

Anales de los Cakchiqueles (Brinton Collection, University of Pennsylvania Library) Manuscript on which the Brinton edition is based.

genizye

Sample for the use of <G> instead of < 4 > from Domingo de Ara, Vocabulario en lengua tzeldal. 1571, copy from 1611. México 1986

Sample for the use of $\langle G \rangle$ instead of $\langle 4 \rangle$ from Gabriel de San Buenaventura, Arte de la lengua maya. 1684. México 1996

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