PHONOLOGY OF CHIQUITANO

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THE CHIQUITANO PEOPLE

Most Chiquitanos live in southeastern Bolivia in the provinces of Nuflo de Chavez, Velasco, Angel Sandoval, and Chiquitos in the department of Santa Cruz. They occupy an area of some 200 by 300 miles, east of the Rio Grande and east of the city of Santa Cruz. The Santa Cruz-Corrumbá railroad is the southern limit of the area which extends as far north as the Itenes River, with isolated pockets of Chiquitano speakers east of the Itenes.

In the centers of San Javier, Concepción, San Ignacio, San José, Santiago, San Juan, Santa Corazón, and in villages south of San Ignacio, Spanish as well as Chiquitano is spoken. However many farmers in the surrounding area are Chiquitano speakers and most of the towns have a Chiquitano section. There are some areas where almost all of the population is Chiquitano speaking. The authors live in one of these areas, called the Lomerío, which is located 60 miles south of Concepción.

It is estimated that there are some 15,000 to 25,000 speakers of the various dialects of the Chiquitano language. Most of the centers mentioned have their own particular dialect, but these are at least 85% mutually intelligible. The dialects spoken in Concepción and San Ignacio are about 90 to 95% mutually intelligible.

The Chiquitano people are to a certain extent bilingual with Spanish. The men tend to know more Spanish than the women and children. Spanish is used for trade, for official speeches, and for contact with the government and with outsiders, while Chiquitano is used in the home, in the field, and for social, community, and religious life, except where Spanish has been superimposed by outsiders.

The authors have been living with Chiquitanos intermittently since 1968. Their early years in the area were spent in language learning and analysis. In the years 1972, 1973, 1975 and 1976 they participated in linguistic workshops making the following linguistic progress:

- phonological analysis (see paper) work on phrase and clause level with the help of the computer concordance, discovering the full range of the verb forms, but not their full significance.
- beginning analysis of narrative with first indications of the significance of modes, analysis on all levels of grammatical hierarchy.
- initial (incomplete) write up of a basic grammar, further analysis of narrative with full implications of the use of modes.
- analysis of other kinds of discourse (genres), write up of description on use of verb modes (see paper).

The New Testament and a summary of the Old Testament stories have been translated and are presently being revised. Two primers and seven bilingual reading books have been prepared, seven Chiquitano men trained in translation principles, twelve teachers trained, nine bilingual schools established, and ten others received other training.

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Chapter I

THE PHONEMES OF CHIQUITANO*

1. The Sounds

Contoids:

p t t tš k?

b s š š š.

m n ñ (η)

w r y

Vocoids:

i ü u

(υ

e ο

ε ο

There is:

Nasalization of all vocoids

Length of all vocoids

Voicelessness of all vocoids**

Sequences of vocoids up to clusters of 3.

For treatment of these features see chapter II.

^{*}This study is based on the dialect of Chiquitano spoken in the area of Lomerio, south of the town of Concepción, Province of Ñuflo de Chavez, Bolivia. The material was gathered during a number of stays of the authors in the area from 1968 to 1973.

^{**}In this paper voicelessness of vowels is indicated by underlining the vowel. e.g.[posü] 'house'.

2. Syllable Patterns

The following non-suspect syllable patterns are found:

V

 ${\mathbb C} V$

VV

CVV

(See also chapter II.1.)

examples:

[a.ta.so]

'full'

V.CV.CV

[ae.mo]

'to you'

VV.CV

[ka.na.pae]

'it seems'

CV.CV.CVV

3. Interpretation

The following suspect sounds and sequences of sounds are found:

[tš] as in [tšama]

'much'

[yatšüroi]

'I am going on'

[atšeti]

'he gives'

 $t\check{s}$ is interpreted as one unit $[\check{c}]$ on the basis of the pattern CV which prevails in the language and the absence of consonant clusters.

[čama]

'much'

CV.CV

[yačüroi]

'I am going on'

CV.CV.CVV

[ačeti]

'he gives'

V.CV.CV

[n]

as in [kãŋšü]

'stone'

[išãnka]

'I want to'

[pãnso]

'wet'

 η occurs only after nasalized vowels preceding velar stops and sibilants. On the basis of non-suspect CV-patterns it is interpreted as a transition between nasalized vowels and the following consonant.

 $[\tilde{n}]$ is interpreted as one unit $[\tilde{n}]$, because as such it fits into the much more common pattern CV, rather than into the less common pattern CVV. There is also a definite contrast between $[\tilde{n}]$ and $[n\underline{i}]$ with a marked phonetic difference:

[y] is interpreted as a consonant on the basis of non-suspect CV-patterns. Word initial it could also function as a vowel, fitting into the pattern VV, but as a consonant it fits into the much more common pattern CV, and word medial it can only be interpreted as consonant, because no non-suspect patterns of more than two vowels were found in the data.

[ye.ka.tü] 'I go' CV.CV.CV
[yo.po.š<u>ü</u>] 'wax' CV.CV.CV
[pa.yu.tu.šü] 'arrow' CV.CV.CV.CV

[w] is interpreted as consonant. It is an allophone of /b/ and as such functions as consonant in normal CV-patterns.

[tuwaka] 'tomorrow' CV.CV.CV [suwašü] 'among us' CV.CV.CV

[ai], [au], [au], etc. These vowel clusters are interpreted
 as two vowels in the light of normal CV-patterns and in the
 absence of consonant clusters which would be formed, if the
 high vowels were interpreted as consonants.
 e.g.

[na.nai.ña] 'all' (not [na.nay.ña])

[ta.baü.šü] 'chicha' [nau.ki.če] 'when'

For interpretation of vowel clusters in relation to the syllable, long vowels, and nasalization see Chapters II.2. and II.3. and II.5.3.

For interpretation of voiceless vowels see Chapters II.5.b.i. and ii. and II.6.a.

4. The Phonemes

a. Consonants:

/p/ [p] voiceless unaspirated bilabial stop.

e.g. [panacütu] 'they plant' [ñapãtušti] 'his lie'

/t/ [t] voiceless unaspirated palato-alveolar stop. It occurs after the high front vowel /i/.

e.g. [manitana] 'she speaks' [itacu] 'on account of'

[t] voiceless unaspirated fronted alveolar stop. It occurs when not preceded by the high front vowel /i/. e.q. [ataso] 'full' [takürušü] 'the end' /č/ [č] voiceless unaspirated alveo-palatal affricated stop. e.g. [čãpü] 'nothing' 'I give' [yačeka] /k/ [k] voiceless unaspirated velar stop. e.g. [kãšü] 'stone' [isekatü] 'I come' /?/ [?] glottal stop. It functions as phoneme only word medial. Word initial and word final it is conditioned. (See chapter II.5.b.) e.g. [e?ã] 'pray' [nu?ušü] 'honey' /b/ [w] voiced bilabial semi-vowel. It occurs only before /a/ when following /u/. e.q. [suwašü] /subašü/ 'among us' [tuwaka] /tubaka/ 'tomorrow' [b] voiced bilabial fricative. It occurs in all other positions. e.g. [untubo] /untubo/ 'how' [abasikia] /abasikia/ 'stay here!' /s/ [s] voiceless alveolar grooved fricative. e.q. [siukušü] 'pot' 'I make' [ñasamuka] /š/ [š] voiceless palato-alveolar grooved fricative. It occurs only word initial when followed by the central low vowel /a/. e.g. [šamoka] 'I toast' [šanuka] 'I sleep'

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[š] voiceless, alveo-palatal, grooved fricative.
          It occurs word initial before /i/ and word medial after /i/
          and /e/ and after all nasalized vowels.
          e.g. [nišüküki]
                               'my fingernail'
               [šimianene]
                              'cold'
               [kãšü]
                               'stone'
     [§] voiceless retroflexed alveo-palatal grooved fricative.
          It occurs in all other positions.
          e.g. [ašükü]
                               'you'
               [kõkošü]
                               'death'
               [šükio]
                               'it leaks'
/m/ [m] voiced bilabial nasal.
                              'it sticks'
          e.q. [emana]
              [maniţana]
                              'she speaks'
/n/ [n] voiced alveolar nasal.
          e.g. [nanenese]
                              'day'
              [numanturese] 'fox'
/n/ [n] voiced alveo-palatal nasal.
          e.g. [ñõñűšü]
                              'man'
              [ñasamuka]
                              'I make'
/r/ [r] voiced alveolar flap.
         e.g. [kurubasüšü] 'chicken'
                              'it sounds'
              [rabotü]
/y/ [y] voiced alveo-palatal semi-vowel.
          e.q. [yaka]
                              'I am'
              [nuyurušü] 'rabbit'
b. Vowels:
```

/i/ [(] voiced high open front spread vowel.

It occurs in vowel clusters as the second vowel if the first vowel is of a low quality, (/e/,/a/,/o/).

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e.g. [coñošta:] 'beautiful' [a:samu] 'do it!'
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- [i] voiced high close front spread vowel.
 It occurs in all other positions.
 - e.g. [isekatü] 'come' [a (šimiaka] 'you forgive'
- /e/ [ε] voiced mid open front spread vowel.

 It occurs in vowel clusters of two vowels as the second vowel if the first one is of low quality (/a/,/o/).

 e.g. [uṣ̃ĩãpaɛ] 'very good'

'to you'

- /a/ [a] voiced low open central spread vowel.
 e.g. [ataso] 'full'
 [tacana] 'as if, like'

[aemo]

- /o/ [o] voiced mid open back rounded vowel.
 - [o] voiced mid close back rounded vowel.

 [o] and [o] fluctuate, [o] being more dominant.

 e.g.[otoro] or [otoro] 'it cuts'

 [omo] or [omo] 'it burns'
- /u/ $[\upsilon]$ voiced high open back rounded vowel.
 - [u] voiced high close back rounded vowel.

 [v] and [u] fluctuate, but word initial the tendency is strongly toward [u] while word final the tendency is toward [v], sometimes as far open as [o].
 - e.g.[ucanü] 'you tell' [numanturese] or [numanturese] 'fox' [manu] or [manu] /manu/ 'that one'

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5. Contrast of Phonemes

a. Contrastive Charts

Consonants

	bilab.	alveolar	alveo-pal.	velar	glottal
stops	p	t	č	k	?
fricatives	b	S	š		
nasals	m	n	ñ		·
liquids		r	У		

Vowels

	front		central		back	
:	oral	nasal	oral	nasal	oral	nasal
high	i	ĩ	ü	ũ	u	ũ
low	е	ĕ	a	ã	Ο.	ő

b. Evidence of Contrast

Consonants:

```
/t/ - /s/
                   /ˈtušü/
                                       'water'
                   /'sušü/
                                       'sun'
/č/ - /š/
                   /i'čaca/
                                       'I drink'
                                       'I eat'
                   /i'šaca/
stops - nasals:
/p/ - /m/
                   /'pãšü/
                                       'moon'
                   /'mãšü/
                                       'more'
/t/ - /n/
                   /'tušia/
                                       'already well'
                   /'nušia/
                                       'well'
/č/ - /ñ/
                   /časa'mukapü/
                                       'you don't make'
                                       'I make'
                   /ñasa'muka/
stops - liquids:
/t/ - /r/
                  /nü'tašü/
                                       'fruit'
                   /nu'rašü/
                                       'word'
/č/ - /y/
                  /'čaka'pütü/
                                       'you did not go'
                                       'I went'
                  /'yakatü/
fricatives - nasals:
/b/ - /m/
                  /'tubaka/
                                       'tomorrow'
                   /tu'maka/
                                       'little waters'
/s/ - /n/
                  /sa'pese/
                                       'day'
                  /na'pese/
                                       'heaven, sky'
/š/ - /ñ/
                   /šanu'maiñaka/
                                      'I broaden'
                   /iñanu'maiña'kata/ 'I broaden it'
fricatives - liquids:
/s/ - /r/
                  /asu'sio/
                                       'accept them!'
                   /asurio'ti/
                                       'he accepts'
/š/ - /y/
                                       'I eat'
                  /i'šaka/
                   /'yaka/
                                       'I am'
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nasals - liquids:
                                        'it sounds (absolute mode)'
/n/ - /r/
                   /na'botü/
                                        'it sounds (relative mode)'
                   /ra'botü/
/ñ/ - /y/
                   /ni'ñe/
                                        'my hand'
                   /ni'yesa/
                                        'my thing'
bilabial - alveolar:
/p/ - /t/
                  /'pošü/
                                        'house'
                   /'tošü/
                                        'two'
                   /'bašü/
                                        'dew'
/b/ - /s/
                   /'sašü/
                                        'long grass'
                                        'she carries'
/m/ - /n/
                   /ma'kana/
                   /naka'na/
                                        'this kind of'
bilabial - alveo-palatal:
/p/ - /č/
                   /pa'kušü/
                                        'banana'
                   /ča'ku/
                                        'on the back of'
                                        'she sends'
/b/ - /s/
                   /ba'küpuru/
                   /sa'küpu/
                                        'I send'
                                        'she makes'
/m/ - /ñ/
                   /masa'munu/
                                        'I make'
                   /ñasa'muka/
bilabial - velar:
/p/ - /k/
                   /'pãšü/
                                        'moon'
                   /'kãšü/
                                        'stone'
alveolar - velar:
/t/ - /k/
                   /na'tašü/
                                        'this rain'
                   /na'kašü/
                                        'its being'
alveolar - glottal:
/t/ - /?/
                   /'ata/
                                        'until' (adapt. from Spanish
                                                 hasta)
                                        'eat!'
                   /'a?a/
```

```
alveo-palatal - velar:
/č/ - /k/
                                       'drink!'
                   /a'ča/
                   /a'ka/
                                       'carry!'
alveo-palatal - glottal:
                                       'drink!'
/č/ - /?/
                  /a'ča/
                                        'eat!'
                   /'a?a/
velar - glottal:
/k/ - /?/
                   /'aka/
                                        'you are'
                                        'eat!'
                   /'a?a/
Vowels:
high - low:
/i/ - /e/
                   /isa'ne/
                                        'what?'
                   /esa'ti/
                                        'close to him'
/ü/ - /a/
                   /'üta/
                                        'it bears fruit'
                   /'ata/
                                        'until' (Spanish loan)
/u/ - /o/
                   /yu'pušü/
                                       'her father'
                                        'wax'
                   /yo'pošü/
front - central:
/i/ - /ü/
                   /aš'ti/
                                        'he'
                   /aš'tü/
                                        'if'
                   /no'kiši/
                                        'capybara'
                   /no'küšü/
                                        'agouti'
/e/ - /a/
                   /'yekatü/
                                        'I go'
                   /'yakatü/
                                        'I went'
front - back:
/i/ - /u/
                   /i'čaka/
                                        'I drink'
                   /u'čaka/
                                        'we drink incl.'
```

Chapter II
THE SYLLABLE OF CHIQUITANO

All Chiquitano syllables consist of an obligatory <u>Head as Nucleus</u> and an optional <u>Margin as Onset</u>.

+Margin	+Nucleus

1. Syllable Types

Two basic syllable types are distinguished:

- 1. the simple syllable
- 2. the complex syllable

The differentiating feature between the two types is found in the nucleus, which can be simple (one vowel) or complex (two vowels).

The following are the possible syllable patterns in Chiquitano:

simple V CV complex VV CVV

2. The Nucleus of the simple syllable

It can be manifested by any of the six vowel-phonemes. It may be oral or nasalized. It may be stressed or unstressed.

No formal reason has been found to speak of any restrictions concerning nasalization and stress, though not all combinations occur. So far no unstressed, nasalized vowels in the syllable pattern V have been found, and I unstressed has not been found in CV combinations.

		i	е	a	0	u	ü
stressed	oral	х	х	x	х	х	х
	nasal.	x	х	х	x	х	x
unstressed	oral	x	х	х	х	х	х
ans czessea	nasal.	-	x	х	х	х	х

examples:

```
/'kã.šü/ 'stone'
/kõ.'ko.šü/ 'death'
/'ē.so.ro/ 'lost'
/ñõ.'koi/ 'hear'
```

Vowel sequences can either function as a complex nucleus (see chapter II.3.), or a sequence of syllables with the patterns CV.V or V.V. The conditioning factor is stress. If the second vowel of the sequence is stressed it functions as a syllable-sequence of two simple syllables. Native reaction on syllable rhythm supports this interpretation.

examples:

```
/a.'e.mo/ 'to you' V.V.CV /no.'e.sa/ 'your' CV.V.CV /na.'i.bi/ 'your dress' CV.V.CV but: /na.nai.'ña/ 'all' CV.CVV.CV
```

Phonetically there are also clusters of 3 vowels, ex. nibia'isi 'my hammock'. The first vowel of such clusters is always i. It is morpho-phonemically conditioned and completely predictable and can be ignored for the description of the syllable. The above example is phonemically written as /ni.ba.'i.si/ 'my hammock' CV.CV.V.CV. For the full treatment of the problem see chapter II.5.e. This syllable division is further emphasized by the fact, that some speakers tend to put a slight glottal stop between the stressed and the unstressed vowel if the second vowel is the stressed one. This glottal may be scarcely audible or even completely absent.

example:

While it is quite normal to leave this glottal stop out, native speakers insist that there must be one in words containing the phoneme /?/.

example:

3. The Nucleus of the Complex Syllable

It is manifested by a sequence of two vowels. It may be stressed or unstressed. Stress is on the first vowel.

examples:

```
/'nau.po/ 'our house incl.'
/isuasü'rüka/ 'I have value'
/ñõ'koi/ 'I hear'
/'aume/ 'to you pl.'
/'paüka/ 'women'
/ku'süuru'ti/ 'he is strong'
/'soboi/ 'by us excl.'
```

Nasalization of the complex nucleus:

The complex nucleus can be nasalized. Normally the nasalization lies only on the second vowel, but it may extend over the whole nucleus. This varies from speaker to speaker, and may also fluctuate with the same speaker.

examples:

```
[ñakiõ'koṣu] or [ñakiõ'koṣu] 'her believing'
['saõ] or ['sãõ] 'isn't it?'
```

Long Vowels:

There is phonemic contrast between short and long vowels.

examples:

```
/'poma/ 'little house'
/'pooma/ 'old man'
```

Also, the same intonation features that occur over complex nuclei of syllables occur over long vowels. (See following page). Long vowels are therefore interpreted as complex nuclei, consisting of a sequence of two vowels of the same quality.

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74 examples:
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```
/'baama/ 'these masc.'
/'süübo/ 'it dries'
/'üüro/ 'it carbonizes'
```

The following matrix shows the vowel-combinations in complex nuclei which were found in the available data.

	i	е	a	0	u	ü
i	ii		ia	io	iu	iü
е			ea			
a	ai	ae	aa	ao	au	aü
0	oi	oe		00		
u	ui	ue	ua		uu	uü
ü					üu	üü

Restriction concerning stress: Complex nuclei consisting of long vowels always occur in stressed position.

Intonation features over complex syllables:

A downglide of tone occurs over complex syllables if they are stressed. This glide is more noticeable in nuclei consisting of long vowels, but the same feature is present also over all complex, stressed nuclei.

examples:

4. The Margin

The premargin of both the simple and the complex syllable can be manifested by any one of the 13 consonant phonemes $/p/t/k/h/b/s/\check{s}/\check{c}/m/n/\tilde{n}/r/y/$. There is no post-margin.

Restriction: /ñ/ cannot occur before /i/.

5. Other Features pertaining to the Syllable

a. Phonetic Nasalization

Oral vowels following a nasal consonant $(/m/n/\tilde{n}/)$ tend to be nasalized to a higher or lesser degree, depending on the speaker. This nasalization is much weaker than the phonemic one.

examples:

[ñ ã' sam ũ]	/ñasamu/	'I make'
['baamã]	/baama/	'these masc.'
[aṣ̃ūmã'nĩõ]	/ašümanio/	'those fem.'

b. Phonetic Glottalization

i.) An <u>utterance final</u>, <u>simple syllable</u> with stress is followed by a strong glottal stop which is released into a silent vowel of the same quality as the vowel of the final syllable.*

examples:

ii.) If the final, stressed syllable is a <u>complex one</u>, practically no glottal stop is noticeable in fast speech. However in slow, deliberate speech or at the end of an utterance a glottal stop is put between the two vowels and the second vowel fluctuates between voiced and voiceless.

^{*}The studies on the higher phonological levels of Chiquitano have not been completed yet. In this paper the term 'utterance' is tentatively used and defined as "the flow of speech between pauses". Pauses also include short interruptions of speech.

iii.) Vowels initial to an utterance are also preceded by a glottal stop. (See footnote on page 75.)

examples:

6. Morpho-Phonemics

a. The nominalizer -š

The nominalizer morpheme -š occurs after noun stems and is usually word final except when followed by 3rd person possessive pronouns. If no such pronoun follows the stress lies on the last syllable of the stem and -š is followed by a silent vowel whose quality is conditioned by the vowel of the preceding stressed syllable, that is the last syllable of the stem. This silent vowel may become voiced in slow, deliberate speech or when followed by the 3rd person plural masculine possessive pronoun suffix -ma. The sibilant manifesting -š also is conditioned by the vowel of the preceding, stressed syllable:

Nasalization of the preceding vowel causes the sibilant to be $[\S]$ instead of $[\S]$ after a/o/u/ü/, but has no other effect on the voiceless vowel that follows.

The voiceless vowel has been interpreted as the nucleus of a simple syllable for the following reasons:

- a. there are no non-suspect CVC patterns
- b. it can become voiced and then presents a normal ${\mathbb C} V$ pattern
- c. native reaction points towards this solution

When -š is followed by the 3rd person singular possessive pronoun suffix -ti, which is always stressed, the silent vowel becomes closed transition between the sibilant and the t. (see 6.b).

When -š is followed by the 3rd person plural possessive pronoun suffix -ma 'they', which is never stressed, the silent vowel becomes voiced and the stress moves to that syllable.

examples:

(For treatment of -ma versus -mia see 6.e.)

b. Open and closed transition

morpheme ends in a syllable with a sibilant and the first syllable of the following morpheme is stressed and starts in a consonant other than /t/. The last vowel of the preceding morpheme then becomes open transition. The vowel quality of the open transition depends on the phonetic quality of the sibilant, (which in turn is usually determined by the vowel preceding it, see 6.a.)

s **-** e

š - i

š - ü

[ašü'na] 'this here'
[ñašü'kĩã] 'I carry (water)'

The same open transition also occurs in Spanish loans with consonant clusters foreign to Chiquitano CV-patterns, like sp and st. The cluster is broken up by the open transition.

examples:

Spanish esperar 'to wait'
Chiquitano [ya-šüpera-ka] 'I wait'

"spera" is taken as stem in which the s is changed to §. ya- and -ka are regular Chiquitano verb affixes.

<u>Closed</u> transition occurs at morpheme boundaries if the preceding morpheme ends in a syllable with a sibilant and the first syllable of the following morpheme is stressed and starts with the consonant /t/.

examples:

[aš-'ti] 'he'
[ne?eš-'ti] 'his hand'
[nisüborikiš-'ti] 'his life'

Since it is very hard to hear this closed transition no vowel quality can be established for it.

Interpretation of transition phenomena

In the light of the normal syllable pattern of CV, open and closed transition can both be interpreted as a vowel, preserving the normal pattern. This would imply, that in a CV.CV sequence, when the first consonant is a sibilant, the vowel following the sibilant is reduced to closed transition before /t/ or to open transition before any of the other consonants.

Or it can be argued, that in the closed transition there is phonetically nothing to warrant the establishing of an extra syllable. An alternative solution is to establish a new syllable pattern: CVC and VC with the following restrictions:

- 1. The syllable coda can only be manifested by a sibilant (s or š).
- 2. This syllable only occurs preceding stressed syllables beginning with the consonant /t/.

examples:

The first solution (closed transition - V) is much more satisfactory from the linguistic point of view. However, a practical teaching situation has shown,* that Chiquitano readers and writers generally prefer to use the second solution in practical writing (open transition - C as syllable coda). This may be due to the influence of Spanish orthography, in which written vowels are normally pronounced. Since Chiquitano is spoken in a largely bilingual area we have used the second solution in the practical alphabet. In this paper, however, we follow the orthography of our first solution.

c. <u>Vowel Harmony</u>

i. Vowel harmony occurs between $\underline{\text{verb stems}}$ and $\underline{\text{participial suffixes}}$ -kV. The last vowel of the stem determines the quality of the vowel

^{*}In 1973 a bilingual school (Chiquitano-Spanish) was started in San Lorenzo, Lomerío, Ñuflo de Chavez, Santa Cruz, and in 1975 two more such schools were started in the same province, a fourth one in 1976, and five more in 1978. This feedback came from these schools and from the training sessions of the teachers.

after the -k which in turn determines the kind of sibilant following and the silent vowel after the sibilant. (See 6.a).

Nasalization of the last vowel of the stem changes nothing on the vowel after -k, it remains oral but harmonizes in vowel quality.

examples: (stem underlined; " = secondary stress)

 ni."ta.bai.ki.ši.'ti
 'his killing'

 ni.to.čē.'ki.ši
 'her tiredness'

 ya.ta.sua.'ka.šü
 'her looking'

 nū.ku.'šü.ma
 'their telling off'

 'ni.yü.kü
 'my going'

 'na.kiō.ko
 'your thinking'

 "ña.kiō.ko.šü.'ti
 'his thinking'

ii. There is vowel harmony between <u>verb stems</u> and <u>mode</u> suffixes. It is, however, not completely consistent so that the following must be regarded as general. Allowance for some exceptions must be made, especially for the subject-oriented verbs.*

^{*}There are three basic verb types in Chiquitano: 1) subjectoriented, 2) action-oriented, 3) object-oriented. All three types
can occur with one of five modes: 1) absolute, 2) relative,
3) imperative, 4) evaluative, 5) participial. It goes beyond
the scope of this paper to describe the verb-system of Chiquitano.
Additional information can be found in the article: "The Use of
Modes in Chiquitano Discourse".

For action-oriented and object-oriented verbs:

The last vowel of the stem determines the quality of the vowel in the mode in the following instances:

in action-oriented verbs: in <u>all 3rd person</u> in the <u>absolute</u> mode in object-oriented verbs: in <u>all 3rd person</u> in the <u>absolute</u> mode in <u>all persons</u> in the <u>relative</u> mode

Vowels harmonize according to the following pattern:

last V of stem: i
e
o
V of mode

examples: (The first morpheme underlined is the stem, the second is the mode. Hyphens represent morpheme breaks. The difference of the consonants of the affixes or their absence is determined grammatically.)

ai-ña-na-ti-ti 'he put him' 'he hunts' ba-küba-ra-ti 'he talks' ba-pari-5-ti 'she is angry' tübori-ko-ti 'they masc. whistle' ba-risü-ko-ma i-čü-bo-ñü 'I give in' toč**e-**ko 'she stops' 'you pl. grab him' api-ne-no-ti i-koñoko-no-ñü 'I fix myself up' sopi-kiunumuku-nu-ti 'we are softening him'

In subject-oriented verbs:

The last vowel of the stem determines the quality of the vowel in the mode in all $\underline{3rd}$ persons of the $\underline{absolute}$ mode.

Vowels harmonize according to the following pattern:

vowel of mode

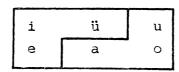
As can be noted, the only difference of this pattern over the one for action- and object-oriented verbs is a - o instead of a - a.

examples:

kübori-o-ti	'he is being beaten'
<u>küta-bo</u>	'she is thin'
<u>ča-bo-</u> ma	'they are drinking'
pasa-o-ti	'he passes' (from Spanish 'pasar')
kusüpü-o-ma	'they steal'
tomoe-no	'she is tied on'
küšü-bu-ti	'he burns himself'
paičokono-no-ma	'they tremble'

A general statement can be made:

In vowel harmony a, o, and u will reproduce themselves, while i, e, and ü go to o, exceptions being allowed for.



d. Contraction

i. <u>Prefixes</u> to all kinds of stems lose their last vowel if the stem or the next prefix begins with a vowel.

examples:

 $t\ddot{u}$ + a-ka = taka

already you are

tü- + umianene = tumianene

already heavy

but: tü- + manumo = tümanumo

already she sleeps

ii. <u>Modal Suffixes</u> of object-oriented verbs are expressed by a combination of the modal- and the object-suffix. The 2nd person and 3rd person plural feminine object suffixes contract with the modal suffix in the following way:

	mode		object		mode	complete	
	-ka	+	-kü	=		-kü	'you singular'
	-ka	+	-año	=		-kaño	'you plural'
	-ka	+	-io	=		-kio	'they feminine'
	-nu	+	-io	=		-nio	'they feminine'
	-ru	+	-io	=		-rio	'they feminine'
but:	-ka	+	-oñü	=		-kaoñü	'we inclusive'

iii. The morphemes -apae 'very much' and -atai 'only, just'

If the last syllable of the preceding morpheme is stressed with a primary or secondary stress -apae and -atai are just added, forming a vowel cluster:

examples:

aŭbo'kiatai 'only just a moment ago'

manumo'tiatai 'he just sleeps'

šãšü'tia'pae 'he wants to very much'

sa'neã'pae 'like this!'

-apae is always stressed, the preceding stressed syllable will always be one with secondary stress. -atai is never stressed.

If the last syllable of the preceding morpheme is not stressed, the last vowel of that morpheme is lost.

'tãsürü	'early'	"tãsüra'pae	'very early'
'taruku	'much'	"taruka'pae	'very much'
'čama	'a lot'	"čama 'pae	'a whole lot'
i'čepe	'together'	i'čepatai	'just together'
'ünãtü	'bad'	'ünãtatai	'just bad, ugly'
i'ñēta	'I hold it'	i'ñētatai	'I just hold it'

-atai can also be suffixed to nouns. (Grammatically and semantically -apae cannot.) If it follows the nominalizer -šü or -se (see 6.a) the initial -a- of -atai is dropped as well as the vowel of the nominalizer. There is then closed transition between the sibilant of the nominalizer (š or s) and the -t- of -tai of the kind described under 6.b.

examples:

tušü	'water'	tuš ^ü tai	'just water'
nañese	'meat'	nañes ^e tai	'just meat'
nasušü	'leaf'	nasuš ^ü tai	'just a leaf'
tabašü	'yuca'	tabaš ^ü tai	'just yuca'

e. <u>Carry-Over</u>

Morphemes starting in a simple syllable, CV, the vowel being /a/, the consonant being one of the following /k/m/p/t/s/, will carry over the vowel /i/ into the morpheme if the preceding syllable ends in the vowel /i/.

examples:

```
[barüküro-ma] 'they sleep'
[ataküpai-mia] 'they work with machetes'
[šanu-ka] 'I sleep'
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'I ask' [šãki-kia] 'your arm' [na-pa] 'my arm' [ni-pia] 'your leg' [na-tapa] [ni-tapašüti] 'his leg' [u-šãka] 'we want to, incl '

[i-šãka] 'I want to'

but:

'your house' [na-po] [ni-po] 'my house'

It is this carry-over that can produce phonetic vowel clusters of three vowels.

example:

[ni-biaisi] 'my hammock'

but:

[na-baisi] 'your hammock'

Since this carry-over is conditioned and predictable it need not be written in the practical alphabet. The palatalized [t] and [s] were already dealt with in the first chapters; they are treated as allomorphs of /t/ and /s/. Their distribution applies also inside morphemes, not just across morpheme boundaries.

The carry-over of [-i] after /m/, /k/, and /p/ could also be ignored in the practical orthography. A Chiquitano speaker, when speaking or reading, will never pronounce a sequence like [-ipa] across a morpheme boundary, but automatically makes it [-ipia]. However the practical teaching situation again showed, that Chiquitano readers prefer to have these variations written out in writing, because of the pressure from Spanish, in which all vowel clusters are written out in full.

The morpheme -ki 'still, yet'

-ki carries the vowel /i/ back into the morpheme boundary if the last vowel of the preceding morpheme is /a/ and the consonant preceding the /a/ is one of the following: /t/k/m/h/.

kaüma	'now'	kaümaiki	'now still, later'
yaka	'I am'	yakaiki	'I am still'
ta ha	'there'	tahaiki	'further over there'
but:			
ensoro	'lost'	ensoroki	'still lost'

7. Practical Orthography

phonemic	orthographical	examples	meaning
/p/	р	apipiaca	'you pl. know'
/t/	t	tururrü	'door'
/k/	c before a,o,u, and	aconca	'you die'
	ü. qu before i and e	auqui	'then'
/?/	h	ehan	'pray'
/č/	ch	champü	'nothing'
/b/	b	untubo	'now is?'
/s/	S	abasiquia	'you stay'
/š/	rr	turrü	'water'
/m/	m	mantucubo	'how many?'
/n/	n	naneneca	'every day'
/ñ/	ñ	ñoñünrrü	'man'
/r/	r	curubasürrü	'chicken'
/ y/	У	yaca	'I am'
/i/	i	nibiaisi	'my hammock'
/e/	е	naneneca	'days'
/a/	a	ataso	'full'
/0/	0	oemo	'to us incl.'
/u/	u	ucanü	'you say'
/ü/	ü	arücüca	'you lie down'

length
nasalization
: double vowel pooma 'old man'
: n after vowel /išaka/ irranca 'I want to'

voiceless vowels : like voiced vowels /tušü/ turrü 'water'

(Voiceless vowels described under chapter II.5.b.i are not written in the practical orthography because the syllable which they would form (CV) is completely predictable, while those vowels described in chapter II.5.b.ii belong to syllables which manifest a grammatical unit.)

stress in Chiquitano depends on grammatical forms. It moves about in a word according to what affixes the word takes. Some affixes will always take the stress, e.g. -ti 'he' and some will never take it e.g. -ma 'they', although they belong to the same grammatical category. There is no regularity as to on which syllable the stress will go in stems or whole words.

examples:

stem: -tanu 'head'

'nitanu

'my head' stress is on the first syllable.

stem: -pakü 'mother' ni'pakü

'my mother' stress is on the second syllable, even though the two stems don't differ in number of syllables and the grammatical constructions are identical. (1st person singular possessive).

More study will have to be done on stress to determine in detail the system. But since there are very few minimal pairs of stress (like /'aka/ 'you are' and /a'ka/ 'carry!), there is practically no ambiguity because of it. Stress is therefore not written in the practical orthography.

Closed transition

The quality of the vowel that could be used in the orthography to represent closed transition is determined by the same rule as for open transition, that is $/\ddot{u}/$ after $/a/o/u/\ddot{u}/$, /e/ after /e/, and /i/ after /i/. (See section 6.a and 6.b.)

Chapter III SAMPLE OF TEXT

This text was recorded and transcribed in 1970 in Lomerfo. On the first page it is given in the phonemic and in the practical orthography with an interlinear translation. On the following pages it is given in the practical orthography only.

By Juan Bautista, San Antonio, as told to his namesake Juan B. from Montero.

- suraboira asukarükü naīša ašüna pasabo aukina nubakübaka Suraboira asucarücü nainrra arrüna pasabo auquina nubacübaca. I-tell before-you name- that which-happened from-here our-hunting sake
- 2 süromatü tükañe manuma tošü mañoñüka akübama Süromatü tücañe manuma torrü mañoñünca acübama. They-went long-ago those two men hunting.
- 3 pues enkontraboma nupaučeka tropašü batabayoma Pues, encontraboma nupaucheca troparrü. Batabayoma. So, they-met pigs troop. They-killed.
- 4 sürümana obebo uimia tütokabo tobiši pues maušimianama Sürümana obebo uimia. Tütocabo tobirri. Pues, maurrimianama Many gotten by-them. Getting night. So, they-lit
- 5 pese makünukunuma i ašüti maniki kiatašü pese. Macünucunuma y arrti maniqui quiatarrü fire. They-fried and he that other-one
- 6 õkoiti tosibiši pues aiñumuti auki nãti ümoti oncoiti tosibirri. Pues aiñumuti. Auqui nanti ümoti: he-heard cry. So he-answered. Then he-said to-him:
- 7 ümoče aiñumu naki asai nušia no nāti es nadašūtai ¿Ümoche aiñumu naqui? ¡Asai nurria! No, nanti, es nadarrtai Why-do-you answer him? Watch well! No, he-said that's nothing

- 8 iñemo, nanti, pues. Asi que arrti quiatarrü tübirrubuti. to-me he-said so. Then he other (was)-afraid.
- 9 Au manu rratorrü oncoiti tatito, cuando acordaboti At that moment he-heard again and he-realized
- 10 tütane saimia, tanati saimia maniqui tosibico. already-was close, was close that screamer.
- 11 Arrti quiatarrü tübirrubuti. Ariorrti ape. Queraboti He the-other already-was-afraid. He-went up. Remained
- 12 acü quiatarrü. Pues arrüñü chüpuerurrüpü irru, nanti. on-the-ground the-other. So I cannot-be afraid he-said.
- 13 Tnataiti cauma tiene que rrahi aubuti. Champu He-arrives now must I-fight with-him. There-is-nothing
- 14 causane uiti iñemo. Y como que aiñanainti esati, pues. why from-him to-me. And so as he-arrived at-him, so.
- 15 ¿Tsane nachücoi? nanti. Yaca ñasumuca. Cara, a ver What are-you-doing? he-said. I-am frying. Wow, let's see
- ache iñemo nasümucu. Au manu acheti ümoti nisümucurrti, give me your-steak. At that he-gave him his-steak
- 17 taman peasorrü. Au manu rratorrü tacürusu uiti.
 one piece. At that moment finished by-him.
- 18 Ache iñemo manrrü, nanti. Como sane ñanquiquirrti Give me more, he-said. As like-this his-asking
- 19 pünanaquiti, tacürusu manio nupaucheca obebo uimia.
 of-him, finished those pigs gotten by-them.

- 20 Despues nanti: Faltabocüqui. Aiñenotitito. Aratitito.

 Then he-said: You-are-missing He-grabbed-him-too. He-devoured -still. -him-too.
- 21 Arrti quiatarrü birrubuti. Anati ape. Paichocononoti He the-other (was)-afraid. He-was up-there. He-trembled
- 22 nirrucurrti. Arrtaiyotitü ümoti, lo que pasabo ümoti of-his-fear. He-watched him that which happened to-him
- 23 maniqui quiatarrü cumpañeruturrti. Auqui manu that other companion. From that
- 24 asaratitü ape ümoti. Pues, ariorrti isiuti ape. he-looked up to-him. So, he-went after-him up.
- 25 Pues, aiñanainti. Ane uiti arrone "sirio" curusüma. So, he-arrived. Had he that little cross.
- 26 Aiquianti Aitusiancati isucarüti. Paquinañati acü

 He-took-it. He-showed-it to-him. He-fell-back to-the-ground
- 27 ñünana. Auqui tano sürotitatoso ñünana arrümanu before-it. From there he-went-back before-it that-one
- 28 nitosibirrti tano. Auqui tano ariorrti tato maniqui who-had-screamed before. From thence he-went back that
- 29 quiatarrü. Ariorrti uraboiti isucarü maquiataca. other-one. He-went to-tell to-them the-others.
- 30 Ariorrüma asaborimia. Tusio arrümanu cauta amoncoma
 They-went to-see. It-showed that where they-had-been
- 31 macünucunuma. Despues aiñanaimia acamanu anatito, frying. After they-arrived there he-was-too,

- 32 rabotü tatito tosibirri. Eso si caüma usaübuapae. sounded again scream. So then now directly-with-us.
- 33 Caüma puede ser; sürümana oñü. Taqui bahiquia Now it-can be; many (of)-us. May we-fight
- 34 aübuti. Sürümana oñü. Ateneboma porque sürümanama. with-him. Many (of)-us. They-waited because many-of-them.
- 35 Champüatai aiñanai. Rabotü tosibirri. Aiñumuma.

 Just-not arrived. Sounded scream. They-answered.
- 36 Cuatatiso. Coboi rabotü saimia. Manrrü aiñumuti He-came. After-a-while sounded close-by. More he-answered
- 37 maniqui taman. Nantiso: No arruñu sufirriente. that one. He-said: No I-am enough.
- 38 Arrüñü puede ser te yarrüperaca cümenoti. Puerurrü I perhaps surely I-wait for-him. Able
- 39 rrahiquia aübuti. Puerurrü itabaiquiati. Rabotitü
 I-fight with-him. Able I-kill-him. He-sounded
- 40 tosibico. Arrümanuma torrüma nansümatü: Mejor iquiatü screamer. Those two said: Better I-qo
- 41 ñasamu este sentarrü, auquina oesübu arrtü macananati I-make this path, from-which to-flee if he-wins
- 42 oemo. Metalema asamuma sentarrü manuma torrü. over-us. They-qot-at-it making path those two.
- 43 Y auqui ariorrüma. Taboma iche, chauqui arrümanuma And then they-went. They-were far, already those
- 44 bahiyoma aübuti maniqui naurri nüunrrü. Asi que chauqui they-fought with-him that spirit (of-the) So then already -jungle.

- 45 tübatacheboma uiti. Asi que chüpuerurrüpüma manrrü. they-tired by-him. So then they-could-no more.
- 46 Acamanu arrti maniqui sürotü au sentarrü. Aesübuma There-then he that-one went to path. They-fled
- 47 niyücürrüma yahiquirrimia aübuti asta que macananati their-going their-fighting with-him until he-won
- 48 ümoma. Batacheboma uiti. Tacürusuma uiti maniqui over-them. They-tired by-him. They-were-finished by-him that
- 49 tosibico. Por eso nauquiche arrtü oecatü eana screamer. Therefore when if we-qo into
- 50 nüunrrü chüpuerurrüpü auqui na uiñumutatai tosibirri, jungle one-cannot from here just-answer screams,
- 51 y cuandorrtü chütusiopü oemo quiti naqui. Pues and especially-if not-known to-us who it-is. So
- 52 sane nisurapoi asucarücü nainrra. like-this my-telling to-you namesake.

Free translation

The numbers in the text refer to the line numbers of the Chiquitano text.

¹I am telling you, my namesake, about what happened to some of our hunters. ²A long time ago two men went hunting. ³They found a troop of pigs and killed some. ⁴In fact they got many of them. Then night fell, so they lit a fire ⁵ and started to fry. Now that other one ⁶ heard a scream, so he answered it. (screamed back) Then the other said to him: ⁷Why do you answer that one? Watch out! No, he said, that's nothing to me. ⁸But the other one began to be afraid. ⁹At that moment he heard it again and he realized it was closer by, ¹⁰that screamer was now close by. ¹¹The other one was now afraid. He went

up (a tree). The other one stayed on the ground. 12I cannot be afraid, he said. 13 If he comes now I'll just have to fight him. he will 14 not do any harm to me. And so then he arrived at him. 15What are you doing? he said. I am frying. Fell now, let's see 16 give me of your steak. At that he gave him a piece of his steak. ¹⁷He finished it immediately. ¹⁸Give me more, he said. And since this was the way he kept asking of him, ¹⁹those pigs they had gotten were finished. ²⁰After that he said: All that's missing now is you. He grabbed him too and he devoured him too. 21 The other one was afraid. He was up (the tree). He just shook with fear. 22 He was looking on to what happened ²³ to that other companion of his. After that he looked up to him and then went up after him and arrived at him. 25 But he had that little cross with him. it out and showed it before him. He then fell back to the ground because of it. ²⁷And then he took off because of it, that one who had screamed before. ²⁸Then that other one went back. ²⁹He went to tell the others. ³⁰They went to see. They could see where they had been frying. 31 After they had gotten there he was around again. scream was heard again. Well, well now, that is for us surely! 33Now maybe there are many of us, 34 now perhaps we could fight him, we are many. So they stayed there, because they were many. didn't come. Another scream was heard. They answered it. 36 Then he began to come. After a while it sounded real close. There was that one who answered more. 37 He said: No, just me alone will be enough. 38 I can be the one to just wait for him, I can 39 fight him, I can kill him. 40 The screamer was heard. Now those two said: It is better I go and 41 make this path over which we can flee if he should win over us. 42 So they really got at it and made a path, those two. 43 And then they went. They were far already, when those (others) 44 fought with that spirit of the jungle. And so 45 they were tired out by him, and they could no more. 46 There now that one went to the They fled, ⁴⁷ fighting with him as they went until he won over them. 48He tired them out, and finished them off, that screamer. Therefore (I say) when we go into the jungle 50 we should never from there answer a scream, 51 especially since we do not know who it is. So then, ⁵²this is what I wanted to tell you, my namesake.