Grammatical Sketch of Zacatepec Chatino

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Abstract

Chatino is a group of closely related language varieties belonging to the Zapotecan branch of the Oto-Manguean language family. Zacatapec Chatino is spoken in the small community of San Marcos Zacatepec in the State of Oaxaca, Mexico. It is a conservative variety of Chatino, as it conserves the penultimate syllables of disyllabic roots. Nowadays, Zacatepec Chatino is only spoken by community members above 35 years of age and is considered a moribund language.

Its phonology presents us with sixteen vowel rimes (oral, nasal, glottalized and nasalized, and glottalized), lamino-alveolar sounds, and a large inventory of tones (8 tone categories).

Morphologically, ZC features a very large inventory of allomorphs of its aspectual morphemes which makes its verbal paradigms extremely irregular and a highly complex area of its grammar. Also, interchangeability of features is another aspect of ZC as person marking, for example, can be expressed through nasalization as well as tone contrast.

Syntactically, it is a VSO language, although other word orders are acceptable, depending on pragmatic motivations.

Table of contents

Abbreviations

1s	first person singular
2s	second person singular
3s	third person singular
1plin	first person plural inclusive
1plex	first person plural exclusive
2pl	second person plural
3pl	third person plural
COMP	complementizer
NOM	nominalizer
N	noun
ASP	aspect
Agr	agreement
Adj	adjective
PERS	person
CAUS	causative
DEM	demonstrative
NEG	negation
DAT	dative
ENF	emphatic
IP	interrogative particle
REL	relativizer
NP	noun phrase
C	completive aspect
P	potential aspect
H	habitual aspect
Pro	progressive aspect
YAI	Yaitepec
SJQ	San Juan Quiahije
ZEN	Zenzontepec
ZAC	Zacatepec
ZC	Zacatepec Chatino

List of Figures

List of Tables

A note on Sources

This work is based on two periods of fieldwork in the village of San Marcos Zacatepec during the summers of 2006 and 2007 for a total of six weeks. The corpus consists of approximately twenty hours of elicitation and contains four very short texts of natural discourse transcribed and translated. The material is to be archived at AILLA (Archive of Indigenous Languages of America) at the University of Texas at Austin.

Chapter One

The language and its speakers

1.1 The Chatino people and the language

The Chatinos form an indigenous group of about 40,000 people dispersed in isolated communities in the Southern Sierra Madre in Oaxaca, Mexico. Throughout history, the Chatino region has known waves of domination by the Zapotecs, the Mixtecs, the Aztecs, the Spaniards and finally by the Mestizos (non-indigenous Mexican people) (Greenberg 1981). The Mestizo domination is probably the one that most affected the use of certain Chatino varieties as a daily medium of communication in some areas leading to the present critical linguistic situation of San Marcos Zacatepec. This community's strategic location, near the coast, and on an important commercial axis, rendered it more open to outsiders and made the use of Spanish for commercial purposes a necessity. Nowadays, Zacatepec Chatino (henceforth ZC) is considered one of the most endangered Chatino varieties.

Chatino is a shallow language family, member of the Zapotecan branch of the Otomanguean language family. It is spoken by about 29,000 people in the Chatino area of Oaxaca. There exists a division in the literature regarding the number of Chatino varieties. The Ethnologue (Gordon, 2005) recognizes six Chatino varieties: Eastern Highlands, Nopala, Tataltepec, Western Highlands, Zacatepec and Zenzontepec. The Pride's classification (Pride & Pride 2004) distinguishes three main areas : Zenzontepec [CZN], the *zona baja* and the *zona alta* (*zona alta occidental* and *zona alta oriental*). The *zona baja* only includes Tataltepec [CTA],

whereas the *zona alta* is subdivided in two areas: *zona alta occidental* and *zona alta oriental*). The western highlands area or *zona alta occidental* includes Yaitepec, Panixtlahuaca, Quiahije, Ixtapan, Tepenixtlahuaca, Ixpantepec, Amialtepec all classified under [CTP], and Zacatepec and Juquila both classified under [CTZ]. The northeastern area or *zona alta oriental* includes Santa María Yolotepec, Lachao Viejo and Lachao Nuevo [CLY] and Santos Reyes Nopala, Temazcaltepec, Titiltepec, Teotepec, Cerro del Aire, Santiago Cuixtla, Antonilco and San Gabriel Mixtepec [CYA].

The Chatino Language Documentation Project agrees with Boas' tripartite division: *Eastern Chatino* which includes the eastern and western highlands areas, Tataltepec and Zenzontepec (Woodbury 2008). Mutual intelligibility is practically impossible across divisions and can be difficult within the last set:

- Zenzontepec (isolated; divergent; conservative; strong speaker base)
- Tataltepec (isolated; divergent; fairly conservative; losing speakers)
- Eastern varieties (mutual intelligibility difficult even within this set)
    - Lachao/Yolotepec (large territory; fairly conservative; losing speakers)
    - Yaitepec (innovative; strong speaker base)
    - Zacatepec (highly highly unique for its conservative preservation of penultimate vowels and lack of any consonant loss; moribund)
    - Juquila (conservative; nearly extinct)
    - Quiahije (highly innovative; strong speaker base)
    - Panixtlahuaca (fairly conservative; strong speaker base)

- Nopala (central; moderately divergent, lessened by contact with Highlands; innovative; losing speakers in large towns but many strong villages).

The table below presents lexical correspondences for 4 varieties of Chatino: Zenzontepec, Zacatepec, San Juan Quiahije and Yaitepec. It illustrates the process of monosyllabification undergone in the varieties of Yaitepec and Quiahije compared to the disyllabic roots of conservative varieties such as Zenzontepec and Zacatepec. Also, it is interesting to note that the tone categories across varieties have a very clear pattern of correspondence especially between ZC and SJQ:

Table 1: *Lexical correspondences for ZEN*[1]*, ZC, YAI and SJQ*

	ZEN	ZC	SJQ	YAI
trunk	ya jnya7	kinyan72	kynya742	kinya712
he/she ate	yaku	yako3	yku4	yku3
three	tzúna	tzona3	sna24	sna1
people	nyatēn	naten3+	nten14	ntten24
snake	kwénā	kwina21	kna1	kwna1
dog	jnē7	xoni732	xne72	xni723
table	mesā	misa32	sa1+0	nwsa23
butterfly	kwilīxí	losi31	si3	wsi32
cat	mixtyū	mixtyon30	xtyon20	xtyon21
banana	ngo7o	ja7wa3+	7wa14+0	j7wa24
in the ground	ndo yuu	l'yo13	lo4 yu32	
tomato	ngwīxí	ngwi-xi30-3	xi14	xi24

1.2 Sociolinguistic situation

Due to the rugged terrain of their land, the Chatinos are one of the most isolated ethnic groups in the state of Oaxaca. This geographical situation has created the ideal environment for the development of small isolated speech communities with their own socio-economics and

[1]ZEN has a different tone notation from other varieties: accent grave is high tone, the macron is mid tone, and nothing over a vowel is unmarked tone.

social stratification. Their individual location is highly correlated to the state of the language in each community. The more isolated a community is geographically the more the language and culture is allowed to thrive. Conversely, the more accessible to other non-Chatino communities, the more the heritage culture and language faces a process of attrition. However, the community of Yaitepec seems to resist this trend as it is recognized by Chatino people as the most traditional and conservative of all Chatino communities. Yaitepec is located only a few minutes drive from Juquila which is considered a Mestizo town. Yaitepec is a good example of Chatino resistance to Mestizo culture.

The state of the language presents great inequalities depending on the variety. Some Chatino varieties thrive in communities almost entirely monolingual in Chatino (Cieneguilla), while others such as Yaitepec Chatino or San Juan Quiahije Chatino show different degrees of Chatino-Spanish bilingualism with the heritage language remaining dominant. Still others, face a serious process of language loss, as is the case for Zacatepec Chatino where the native language and culture are moribund, and where Spanish has become the primary language.

The town of San Marcos Zacatepec (*kichen3 tzi1*) is located in the lowlands of the Southern Sierra Madre, at about 820 meters above sea level, 30 minutes from the Pacific coast in the State of Oaxaca, Mexico. It has a population of approximately 1000 people (according to the 2005 census - INEGI-Instituto Nacional de Estadísticas y Geografía).

Economic activities in San Marcos Zacatepec include growing coffee and corn mainly at a subsistence farming scale. Many village men and women work as laborers in near-by towns like Rio Grande, Puerto Escondido and Juquila. Furthermore, the village has been experiencing

mass migration by the younger generation of men, and recently even by young women, to Mexican cities and the US.

In the last forty years, it has developed important commercial ties with non-Chatino communities thanks to improved access to the coast through a very accessible and direct road system. As a result of this constant contact with outsider Spanish speakers, ZC has become highly endangered, or rather moribund.

In the community, the younger generation is monolingual in Spanish: the language of education, media and modern life. Some members of the older generation between 35 to 50 years of age are bilingual Spanish-Chatino speakers or passive Chatino speakers. Only the elder group, over 50, still consists of bilingual Chatino-Spanish speakers. Unfortunately, monolinguals in Chatino are extremely rare and if encountered, are very old.

As a result ZC presents a set of speakers with great differences in degrees of competence. ZC is the minority or vernacular language, and Spanish is the dominant one. Despite the coexistence of the two languages, this situation cannot be considered classically diglossic, where Spanish would be the high prestige language and ZC the low one, because their use is not in complementary distribution. Chatino is only used in informal contexts, but Spanish is used in both informal and formal situations. Furthermore, the degree of bilingualism is asymmetric, since no Spanish native speaker knows Chatino; some may be passive speakers but with very limited competence.

ZC is spoken amongst friends and family members. In other words, ZC is mainly spoken in informal contexts within the community. Furthermore, all of the ZC speaking situations occur among people belonging to the same ethnic group. All other everyday activities (e.g. political,

educational, or economic activities) take place in Spanish. Despite a strong interest in Chatino literacy, so far there is very little or no support for teaching Chatino in the community's school.

1.3 A linguistic profile of Zacatepec Chatino

Chatino is an Oto-Manguean language part of the Zapotecan family. Among the interesting facts about the language is that the language family is spread out in a fairly small area in the state of Oaxaca, but an even more interesting detail is that ZC is only spoken in the small village of San Marcos Zacatepec. It is among the most conservative varieties of Chatino; contrary to the majority of Chatinos varieties, it conserves the penultimate syllables of disyllabic roots.

Furthermore, Zacatepec Chatino also exhibits interesting and uncommon features in its grammar. As far as its phonology is concerned, it has a small inventory of four vowels which occur in four different rimes (oral, nasal, glottalized, and nasalized and glottalized), its phoneme inventory is also fairly small but it includes a set of typologically rather uncommon lamino-alvear sounds, and last but not least, its tonal inventory is unusually large (8 tone categories) compared to some other Chatino varieties and particularly to other tone languages of the world in general. Its sandhi pattern is very intricate and reveals super high upsteps which makes the language sound quite unusual to the ear of a non-native speaker.

Its syntax and meaning are shaped by use of particles and word order rather than by inflection (except for verbs). Some functions are handled by mixed means; for example, person marking can be signaled through tone contrast and /or nasalization, encliticization, or also by a

separate word. The majority of ZC morphemes are free morphemes (except once again for the verbs) rather than agglutinated particles.

Morphologically, ZC features a very large inventory of allomorphs of its aspectual morphemes which makes its verbal paradigms extremely irregular and a highly complex area of its grammar. Also, interchangeability of features is another aspect of ZC as person marking, for example, can be expressed through nasalization as well as tone contrast. Compounding patterns play an important role in word formation; the use of combination of 'light nouns' or semantically poor nouns and semantically rich nouns is very prolific in the language. For example, the light nouns *non3* 'the one'*, to3* 'cavity' and *la3* 'small animal' often occur as head nouns in noun phrases.

Syntactically speaking, the basic word order is VSO but other orders are present and have specific pragmatic motivations. Some morphemes such as the marker *7in3* have various functions in the grammar, i.e, it is a dative marker that introduces human objects, indirect objects and also marks alienable possession.

1.4 Previous Research

Franz Boas published 'Notes on the Chatino language' in the 1910's where he recognizes three main divisions (Tataltepec, Zenzontepec and all the others) among the Chatino varieties (Boas 1913).

In the 1950's a small dictionnary and an article on Yaitepec Chatino were published by Mckaughan (Mckaughan 1954).

The majority of the early work on Chatino has been done by Christian missionaries through the SIL (Summer Institute of Linguistics). Most published studies are the work of Leslie and Kitty Pride. Kitty Pride's *Chatino Syntax* was published in 1965 and focused on Yaitepec Chatino (Pride 1965). Much later, in 2004, Leslie and Kitty Pride created a Chatino/Spanish dictionary including a short grammatical sketch focusing on Panixtlahuaca Chatino, but also included comparative notes on lexical items from other varieties which they consider part of the same continuum, such as Nopala, Yaitepec and Zacatepec (Pride & Pride 2004).

Some work has been done by Carleton and Wakler (2000) on the pronominal system of Zenzontepec Chatino, which is one of the rare conservative varieties that preserves the historically disyllabic roots.

Jeffrey Rasch worked on Yaitepec Chatino and published a Ph.D. dissertation from Rice University in 2000: 'The Basic Morpho-Syntax of Yaitepec Chatino'. His work, being the first thorough documentation of a Chatino variety, has been the base for many other subsequent studies of Chatino, and specifically for the present grammatical sketch of Zacatepec Chatino. The practical orthography he created in his work was adopted (with some modifications) by the Chatino Language Documentation Project.

In 2003, Anthony Woodbury and two Chatino graduate students (Emiliana Cruz: Anthropology and Hilaria Cruz: Linguistics) from the University of Texas at Austin started working on the documentation of Quiahije Chatino. They first focused on analyzing its phonology and tonology and then went on to work on the morphology and syntax. They also initiated comparative work which served as a stepping stone for the documentation of other Chatino varieties such as Nopala and Zacatepec.

Their analyses on Quiahije phonology and tonology shed light on a very intricate system and allowed me to take on work on Zacatepec Chatino which would have been very difficult if not impossible without their insight.

Woodbury, Emiliana Cruz and Hilaria Cruz visited San Marcos Zacatepec during the summer of 2005; they conducted elicitation and gathered texts. H. Cruz and Woodbury published in 2006 a study presenting a preliminary analysis of its tonal system and a practical orthography. In the summer of 2006, I started fieldwork in San Marcos Zacatepec and continued the documentation work they had initiated. A study of Zacatepec tones was published in 2008 (Villard 2008).

There is some ongoing work on a couple of varieties by two other linguistics graduate students at the University of Texas, also part of the Chatino Language Documentation Project. Eric Campbell has been working on Zenzontepec Chatino (conservative) since 2007 and has done extensive work on its lexicon and also some work on verb classification. Justin McIntosh started working on a description of Teotepec Chatino, a Nopala variety, in 2007. There is no published work by them so far for either variety.

1.5 The aim of this work

In the case of an in-depth study of a living language, the researcher is often involved in a study that stretches over a decade or more. The production of a brief grammar early in the research process allows the linguist to make the basic facts about the language available to the public earlier than would otherwise be the case.

Thumbnail grammars are usually written in as straightforward a style as possible, with a minimum of esoteric terminology and conventions. They are intended not only for the professional linguist but also for others involved in Chatino linguistics such as bilingual education school teachers working with indigenous children.

Chapter Two

Phonology

This chapter has two main objectives - to describe the phonological patterns found in Zacatepec Chatino and to introduce the orthography that will be used throughout this work.

The subsections of this chapter are the following: orthographic system, phonemic inventory, structure of the phonological word, phonemic description and distribution and tonal system.

2.1 Orthographic system

The orthography generally reflects the phonological analysis except at a couple of points where this goal is relaxed, primarily for economy and purposes of consistency with the orthographies of other Chatino varieties that have been studied in the Chatino Language Documentation Project (Yaitepec, San Juan Lachao, Zenzontepec and San Juan Quiahije Chatinos). One of the goals of the Project is developing an orthographic system that would be transparent and accessible to all Chatino speakers.

The main departures from the IPA and the phonology of the language in the proposed orthography for Zacatepec Chatino are the following: the grapheme for the palatal affricate [tʃ] is *ch* and the one for the laryngeal fricative [h] is *j*, following the Spanish orthographic convention for practical reasons. Also, in concordance with the general tendency in

orthographies for indigenous languages across Latin America, the alveo-palatal fricative [ʃ] is written as *x* and the glottal stop [ʔ] as *7*.

Furthermore, despite the fact that the voiced stops ([d], [dz], [g], [g^{w}], [gy]) are allophones of their voiceless counterparts ([t], [tz], [k], [k^{w}],[ky]), the orthography still includes the graphemes *d*, *dz*, *g*, *gw* and *gy* for purposes of consistency with other varieties' orthographies where the latter segments are contrastive, and also because of Chatino speakers' familiarity with the Spanish orthographic system.

Also, the lamino-alveolar counterparts of the coronals (/t/, /l/, /n/) are written *ty*, *ly* and *ny,* and the sequences composed of *t, l, n + y* are written *t'y, l'y*, and *n'y* .

Although vowel nasalization is a feature and not an independent segment , nasalization in vowels is written with the same grapheme *n* used for the segment and is placed after the vowel.

Finally, Zacatepec Chatino has an intricate tonal system that distinguishes lexical items and that also bears grammatical functions. It has an inventory of 8 contrastive tones realized on words which are orthographically represented with numbers (0 to 3) directly following the word. It is important to specify that certain aspects of the analysis presented in this work reflect changes from Villard 2008 stemming from some further unpublished work of Anthony Woodbury which was shared in personal communication .

2.2 Phonemic inventory

Zacatepec Chatino has 4 vowel phonemes realized in 4 different rimes: (oral, nasal, glottal and nasal+glottal) as shown in table 2:

Table 2: *Vowels of Zacatepec Chatino*

	Non-glottal		Glottal	
	1		***2***	
	i [i]		i7 [iʔ]	
Non-nasal	e [e]	o [o], [u]	e7 [ɛʔ]	o7 [ɔʔ]
	a [a]		a7 [aʔ]	
	3		***4***	
Nasal	in [ĩ]		in7 [ĩʔ]	
	en [ẽ]	on [ũ]	en7 [ɛ̃ʔ]	on7 [ũʔ]
	an [ã]		an7 [ãʔ]	

There are 19 consonant phonemes. Table 3 below presents the graphemes for all the consonants:

Table 3: *Consonants of Zacatepec Chatino*

	Bilabial	**Apico -dental**	**Lamino-alveolar**	**Palatal**	**Velar**	**Labio-velar**	**Laryngeal**
Occlusive	(p)	t	ty		k	kw	7
Affricates		tz		ch			
Fricatives		s	x				j
Tap		r					
Laterals		l	ly				
Nasals	(m)	n	ny				
Glides	w			y			

The distribution of each of the vowel and consonant phonemes and their allophones is discussed in section 2.5. Note in table 3 above, the corresponding apico-dentals and lamino-alveolar sequences. Also, the parentheses (/p/ and /m/) indicate that the sounds in question are not native and only found in Spanish or Nahuatl loan words.

2.3 The phonological word template

Contrary to the majority of the other Chatino varieties**,** Zacatepec Chatino is conservative and keeps the non final syllables of its disyllabic stems and even the antepenultimate syllable of trisyllabic stems.

The distribution of phonemes and the restrictions on consonant sequences are restricted to their positions in the phonological word template.

The phonological word can have the following form:

(n)CV. (C)CV. (C)CV

Some important phonological constraints are not indicated in the figure above.
All non-final syllables of ZC are open syllables. Furthermore, the glottalized vowel analysis is based on the fact that no other consonant outside of the glottal stop can follow a vowel within the same syllable. The glottal stop is the only consonant allowed word finally. Only one glottalized vowel or glottal stop is allowed per phonological word.

The vowels in antepenultimate and penultimate syllables are [-glot], [-nasal]. The CC clusters in penultimate syllables are limited to three possible combinations: (*sk, xt, xk*) or (*ky*,*7w, 7y*) or (*jy, jw*, *jl*).

When the voiceless stops ([t], [tz], [k], [k^{w}]) are preceded by a nasal they become voiced.

Furthermore, the onset consonant of the ultimate syllable in disyllabic and trisyllabic words is pronounced geminated (simple onsets only). This phonetic effect is an important cue to discern between monosyllabic compounds and disyllabic words.

Seven different shapes of phonologically independent words are found in the lexicon. Disyllabic words are most commonly found in the lexicon, followed by monosyllabic and

trisyllabic words. The latter are mostly encountered in Spanish borrowings and in verbs when aspectual morphemes are added to the root.

(a) **(n)CV**

CV *ko2* 'cloud', *7a21* 'a lot', *ja72* 'petate', *nan72* 'I', *tzan3* 'day', *kwi31* 'evening star',

nCV *ngan21* 'coconut', *nda3* 'bean', *nde32* 'here', *ngwa32* 'he/she was'

(b) **(n)CCV**

CCV *skan73* 'snot', *wra32* 'hour', *7nyan30* 'DAT.1s', *kya30* 'tomorrow', *kyo732* 'maguey', *ngya3* 'he/she left',

nCCV *nd'yon21* 'I am grinding', *nd'yo32* 'He/ she is grinding'

(c) **(n)CV.CV**

CV.CV *ki.nyi32* 'bird', *xo.ni732* 'dog', *na.ten3* 'people', *ka.ko3* 'he/she will eat', *cha.ka2* 'other', *ni.7an32* 'adentro', *ki.xin732* 'countryside/grass', *kwi.tye72* 'ant', *to.kwa3* 'two'

nCV.CV *ngo.wen2* '*ripe*', *ndza.ten3* '*cherry*', *ngo.tzo73* '*mud*', *ndyi.tyan21* '*I bathe', ngwe.je3* 'epazote', *ngwi.nyon3* 'mezquino', *ya.kwen32* 'he/she vomited', *ndzo.kwa73+* 'corn'

(d) **(n)CCV. CV**

CCV. CV *ski.na3* ‘sandal’, *xka.le32* ‘alcalde’, *jya.7an30* 'my mother', *jya.ten21* ‘mosquito’ *kya.ja3* ‘tortilla’

nCCV. CV *nd’yo.si32* ‘god’ *ngya.lan2* ‘I arrived’

(e) **(n)CV. CCV**

CV. CCV *mi.xtyon30* 'cat', *ki.7nyan2* 'bed, *ti.jyan2* ‘bone/skinny’, *to.7wan30* 'my mouth', *ki.7ya3* ‘his/her foot’, *na.7ni3* ‘animal’, *tzo.jwen3* 'rough',

nCV. CCV *ngo.l’ya2 ti730* ‘he/she forgot’,

(f) **(n)CV. CV. CV**

CV. CV. CV *ko.ro.si32* ‘cross’, *ko.ji.7in30* ‘he/she will hit’

nCV. CV. CV *ndya.ki.la31* ‘he/she put together’, *nga.ya.ko3* ‘he/she ate’, *nga.yo.la31*, ‘he/she danced’, *nda.li.ji21* ‘he/she spent’, *nga.lo.kwan30* ‘*I swept*’

(g) **(n)CV. CV. CCV**

CV. CV. CCV *ka.ra.sya3* ‘heart’

nCV. CV. CCV *nda.si.7yo21* ' you are cutting’, *ndi.kya.7an2* ‘he/she is washing’

2.4 The two-consonant sequences of Zacatepec Chatino

This section presents a summary of the consonant sequences allowed in the language. The constraints on those sequences apply to the phonological word template presented in section 2.3. Table 4 presents the consonant clusters allowed in ZC and which consonant can occur as C1 or C2 in the CC sequences. The empty intersections indicate a non-occurrence (or not found so far) of a corresponding consonant cluster.

Table 4: *ZC consonant clusters*

C2 ⇒ **C1**	w	n	ny	t	ty	r	ly	y	k	k^w
w						wr				
t								t'y		
l								l'y		
s				st				sy	sk	
x				xt	xty				xk	xk^w
k								ky		
j	jw						jly	jy		
7	7w	7n	7ny					7y		

Examples of consonant clusters as onsets of monosyllabic words:

7ny	7nyan30	DAT.1S
wr	wra3 ni32	*now*
sk	ska3	*a/one*
xkw	xkwi7	*only*
ky	kyo732	*century plant*

Examples of consonant clusters occurring in the final syllable of disyllabic words. It is important to specify that the apostrophe after the consonants below stands for a lost vowel. So the sequences are *t + y* and *l + y.* The latter should not be confused with the corresponding laminal sounds: *ly* and *ty.*

t'y	ngo.t'yo32	*he/she fell*
l'y	si.l'ya3	*topil* (guardian)
xty	mi.xtyon30	*cat*
jw	tzo.jwen3	*rough*
7n	na.7ni3	*animal*
7ny	ki.7nyan2	*bed*
7y	ki.7ya32	*mountain*
7w	sko.7we31	*Juquila*

Examples of consonant clusters occurring in the penultimate syllable of disyllabic words:

sk	ski.na3	*sandal*
xt	xti.ye732	*lemon*
xk	xka.le32	*alcalde*
jly	jlya.kwa3	*flat*
jy	jya.ten21	*mosquito*
xkw	xkwi.la32	*school*
ky	kya.non21	*he/she will stay*

Examples of consonant clusters occurring in the penultimate syllable of trisyllabic words:

xt	nga.xti.kwi30	*he/she hung*
ky	ndi.kya.7an2	*he/she is washing*

Examples of consonant clusters occurring in the final syllable of trisyllabic words:

sy	ka.ra.sya3	*heart*

Table 5 presents the position in which the consonant clusters are encountered in the phonological word:

Table 5: *CC position in the phonological word*

	word initial	syllable initial	final syllable
7ny	✓	✓	✓
wr	✓	✓	
sk	✓	✓	
xk^{w}	✓	✓	
ky	✓	✓	
t'y	✓	✓	✓
l'y	✓	✓	✓
jw	✓	✓	✓
7n		✓	✓
7y		✓	✓
7w		✓	✓
sk	✓	✓	
xt	✓	✓	
xk	✓	✓	
jly	✓	✓	
jy	✓	✓	
xkw	✓	✓	
xty		✓	✓
sy		✓	✓

2.5 The distribution of phonemes and allophonic variations

2.5.1 Vowels

Because all stems in ZC are realized with one of the eight contrastive tones, true minimal pairs showing segmental contrasts are difficult to find. As far as vowel length is concerned, there

exists a difference in length between some vowel segments but it does not seem to be phonemic. Some monosyllabic words contain a long vowel whereas others do not. Monosyllabic words that were historically disyllabic contain shorter vowels than the historically monosyllabic words. This distinction is the result of the minimum mora constraint existing in Zacatepec Chatino being applied to all phonological words, i.e, the latter must have a minimum of number moras and historically disyllabic words satisfy that constraint underlyingly. For example the word for 'his/ her head' *ke2* is phonetically [ke] and has a doublet with the disyllabic word *jike2* whereas the historically monosyllabic words such as 'cloud' *ko2,* bearing the same tone as *ke2* 'his/her head', is phonetically [ko:] and the word for 'stone' *ke3* bearing a different tone, is phonetically [ke:]. So far no examples of minimal length pairs for the same tone have been found and as a result vowel length is not considered phonemic. At this point, the short doublet *ke2* of *jike2* cannot be accounted for. Further research on vowel length and more examples are needed to be able to state whether or not vowel length is phonemic or not.

As was discussed earlier in this section, Zacatepec Chatino has four basic vowels realized in four different rimes (oral, nasal, glottalized and nasalized and glottalized). This leads to a total of sixteen rimes: Cf Table 2. The glottalized vowel analysis is based on the fact that no other consonants are allowed to follow a vowel within the same syllable.

The phone [u] is not included in the vowel inventory, but it is actually present in the language allophonically. [o] and [u] are in complementary distribution: non final /o/ becomes [u]:

/o/⇒ [u]/__C
/o/⇒ [o] elsewhere

Furthermore, nasal vowels only occur in final syllables except when they mirror a

following nasal vowel through a laryngeal fricative, a [w] or a glottal stop. For example *ngowen2* 'ripe' is [ngũwɛ̃], *te7en2* 'jar' is [tɛ̃ʔɛ̃]. Also, some vowels show a difference among their oral, glottal, and nasalized correspondents:

/ĩ/is [ɪ̃]
/ẽ/is [ɛ̃]
/õ/is [ũ]
/oˀ/is [ɔˀ]
/ã/ is [ɑ̃]

/a/, /an/, /a7/, and **/an7/**

Set 1) presents the distribution of /a/, /an/, /a7/ and /an7/ in monosyllabic, disyllabic and trisyllabic words:

	ZC	*English*
1)	**/a/**	
	ka3	*nine*
	la2	*church*
	na31	*thing*
	tya30	*intelligent*
	xa31	*clarity*
	ya31	*nopal*
	ska3	a / *one*
	ngya3	*he left*
	ka.ko2	*you will eat*
	ta.7a3	*fiesta*
	ta.ja3	*lazy*
	wa.ta32	*cow*
	na.7an3	*house*
	ma.xti32	*machete*
	ti.**tya**21	*squirrel*
	ka.ra.sya3	*heart*
	nga.sa.la21	*he/she opened*
	nda.li.ji3	*you are spending*

ka.**ra**.sya3	*heart*
ndo.**sa**.la30	*he/she opens*
ndi.**kya**.7an30	*I am washing*
ngye.**ta**.kwi21	*you get up*
ndyi.**nya**.7an3	*he/she sees*
nga.sa.**la**21	*he/she opened*
ka.ra.**sya**3	*heart*

/an/

tan2	*grease*
nyan3	*years*
ngan21	*coconut*
kwan30	*sky*
tzan2	*grease*
ki.**tan**21	*hammock*
ndi.kya.**7an**30	*I am washing*

/a7/

lya72	*bitter*
ja72	*mat*
ya732	*his/her hand*
cha731	*word*
ki.**ya7**3	*his/her foot*
ti.**l'ya7**3	*plastic*

/an7/

nan7	*I*
skan73	*snot*
jan72	*the aforementioned*
ki.**yan7**3	*my feet*
ya,j**an7**21	*I slept*
ki.**nyan7**2	*trunk*
ti.ki.**nyan7**3	*candle*

/e/, /en/, /e7/, and **/en7/**

Only one example of /en/ and a couple of examples of /en7/ were encountered in monosyllabic words in the corpus. Furthermore, /e/ does not occur in penultimate syllables except when it mirrors the sound across a laryngeal fricative /j/ or a glottal stop /7/.

Set 2) presents the distribution of /e/, /en/, /e7/, and /en7/ in monosyllabic, disyllabic and trisyllabic words:

	ZC	*English*
2)	**/e/**	
	ke32	*flower*
	re3	*king*
	nde32	*here*
	ngwe.je3	*epazote* (herb)
	te.je73	*salt*
	sko.**7we**31	*Juquila*
	ti.**ne**2	*blood*
	ki.**tye**32	*pine*
	xka.**le**32	*alcalde*
	ngye.ta.kwi21	*you get up*
	ke.ta.kwi30	*he/she will get up*

/e/ in antepenultimate syllables in trisyllabic words only occurs in one verb in the corpus.

/en/	
xen2	*large*
te.7en2	*jar*
se.7en3	*place*
ki.**chen3**	*village*
tyo.**kwen**21	*bedbug*
ngo.**wen**	*ripe*
na.**ten3**	*people*

ko.**te**.7en30	*I will marry*
xo.na.**7en**13	*scorpion*

/e7/

ke732	*ice*
ne73	*person*
kwe73	*crab*
lye730	*baby*

la.**te**73	*cloth*
kwi.**tse**731	*pus*
si.**nye**73	*his/her offspring*
ti.**ke**73	*heat*
te.**je**73	*salt*
ya.**we**730	*curse*
kwi.**ne**72	*youngster*
xti.**ye**732	*lemon*

/en7/

men730	*puppy*
sen73	*where*

xko.**tsen**731	*he/she scares*
ko.**kwen**72	*armadillo*
tzo.**jwen**73	*rough*

/i/, /in/, /i7/ and **/in7/**

Only one example of the phoneme /in/ in monosyllabic words was encountered. It is interesting to note that in the Spanish borrowing for the word *table* 'mesa', /e/ is replaced by /i/ in the penultimate syllable because /e/ cannot occur in that position.

Set 3) presents the distribution of /i/, /in/, /i7/ and /in7/ in monosyllabic, disyllabic and trisyllabic words:

	ZC	*English*
3)	**/i/**	
	ki32	*grass*
	ni32	*now*
	pi20	*poult*
	ti3	*ten*
	tzi3	*Zacatepec*
	kwi31	*evening star*
	ki.nyi32	*bird*
	ti.7a3	*water*
	mi.sa32	*table*
	mi.xa32	*mass*
	si.l'ya31	*topil* (civil guardian)
	ka.**tzi**32	*yellow*
	lo.**ti**31	*rope*
	lo.**si**31	*butterfly*
	ji.**wi**30	*whistle*
	ki.**nyi**32	*bird*
	ngwi.**xi**30-3	*tomato*
	ndi.kya.7an30	*I am washing*
	ngwi.xi.kwan30-3	*he/she sewed*
	nda.**li**.ji3	*you are spending*
	ngwi**.xi**.kwan30-3	*he/she sewed*
	ndo.**ji**.7in30	*he/she hits*
	ko.**si**.7in	*I will buy*
	ko.ro.**si**32	*cross*
	nda.li.**ji**3	*you are spending*
	ngye.ta.**kwi**21	*he/she gets up*
	/in/	
	7in3	DAT marker
	to.**kwin**31	*path*
	yo.**sin**3	*sand*
	ki.**xin**2	*ample*
	ti.**kwin**3	*long/tall*
	no.**7win**3	*you*

tyi.**jin**32	*he/she will pass*
kwi.**7in**3	*air*
ko.si.**7in30**	*I will buy*
ko.si.**tyin**2	I will *laugh*

/i7/

lyi730	*parrot*
ki73	*fire*
kwi74	*ring*

yo.**kwi7**3	*he/she*
ndzo.**wi7**30	coal
kwa.**tzi7**31	*iguana*

/in7/

chin730	a little

kwi.**tin7**31	*blind*
kwi.**tyin7**3	*louse*
ki.**xin7**32	*grass/countryside*

/o/, /on/, /o7/ and **/on7/**

As was stated in the phonetic rule above, [o] and [u] are in complementary distribution. [o] occurs in final syllables and [u] elsewhere. However,the word for 'old person' *xu730* contains a [u] in the final syllable. It may have been borrowed from another Chatino variety and remained intact phonetically as it is also *xu721* [ʃuʔ] in YAI and *xu720* [ʃuʔ] SJQ.

With respect to /on/, it only occurs in final syllables except when it mirrors the following sound across a glottal stop or a /w/.

Set 4) presents the distribution of /o/, /on/, /o7/ and /on7/ in monosyllabic, disyllabic and trisyllabic words:

	ZC	*English*
4)	**/o/**	
	ko2	*cloud*
	lo3	*surface*
	tyo31	*clay*
	yo3	*earth*/*ground*
	kyo3	*rain*
	lo.si31	*butterfly*
	jo.7o32	*saint*
	tzo.na3	*three*
	ngo.wen2	*ripe*
	so.non73	*eight*
	ko.non732	*worm*
	to.7wa13	*your mouth*
	ki.**ko**21	*well* (N)
	jo.**7o**32	*saint*
	pi.**xo**32	*peso*
	ko.si.7in	*I will buy*
	ndo.sa.la30	*he/she opens*
	ngo.so.kwa31	*he/she lay down*
	ndo.**lo**.kwa3	*he/she sweeps*
	nga**.yo**.la31	*he/she danced*
	ndo.**to**.7on30	*I .leave*
	lo.**ko**.7wi3	*narrow*
	ngo.to.**7o**31	*he/she left*
	nga.ya.**ko**31	*he/she ate*
	/on/	
	kon2	*sweet potato*
	jon31	*thread*
	ngo.wen2	*ripe*
	so.**non7**3	*eight*
	ti.**7nyon**3	*fifteen*
	mi.**xtyon**30	*cat*
	ngo.to.**7on**30	*I left*

nga.ya.**kon**31 *I ate*

/o7/
ko731 *moon*
kyo7 *century plant*
lyo730 *childish*

ti.**cho7**3 *pineapple*
so.**ko7**30 *grass hoper*

lo.7o31 *corral*

/on7/
chon73 *because*

ti.**chon7**2 *back* (N)
so.**non7**3 eight

ko.**non7**31 worm

2.5.2 Consonants

In this section each phoneme is considered according to its place of articulation and minimal pairs or near-minimal pairs are presented to illustrate contrast between phonemes and also their distribution in the phonological word. Because of disyllabicity and tonal features, true minimal pairs are difficult to encounter: as a result most pairs presented below differ in tone as well as in the contrasting consonant. Also, in the absence of such pairs, the phonemes are presented in as many contexts possible.

Beforehand, it is important to state that when a stop is preceded by a nasal (nC/mC) , then it undergoes voicing. The graphemes, *d, dz, g, gw*, *gy,* and *b* are used for /t, tz, k, k^w, ky and p/ when preceded by a nasal for reasons of consistency with the orthography of other Chatino varieties.

2.5.2.1 Bilabials

Bilabial stops are scarce in ZC and the majority of words containing them are borrowings from Spanish. When /p/ is preceded by an homorganic nasal, it is voiced, as in *mba3* 'buddy'. However, the bilabial glide *w* is widespread in the language and has various phonetic realizations.

/p/

Minimal and near-minimal pairs for /p/ include the following:

/p/	~	**/m/:**	pa30 *dad*	~	ma30 *mom*
/p/	~	**/k/:**	pi30 *poult*	~	ki32 *grass*
/p/	~	**/w/:**	pi30 *poult*	~	wi3 2pl (family members)

/m/

Minimal and near-minimal pairs for /m/ include the following:

/m/	~	**/p/:**	ma30 *mom*	~	pa30 *dad*
/m/	~	**/n/:**	ma30 *mom*	~	na31 *thing*
/m/	~	**/w/:**	ma30 *mom*	~	wa3 1plex

/w/

w has the following phonetic realizations:

/w/⇒ [b]/ #__a *w* is pronounced as a bilabial stop when word initial before /a/:

wata32	[bata]	*cow*
wa3 re32	[ba ɾe]	1plex

/w/⇒ [β] /__i

jiwi30	[hiβi]	*whistle* (N)
wi3	[βi]	2pl (family members)

/w/⇒ [w]/ elsewhere

kwichi31	[kʷitʃi]	*tiger*
ja7wa3+	[haʔwa]	*banana*
ngowen2	[ngũwɛ̃]	*ripe*
ngwa3	[ngʷa]	*he/she was*

There aren't any examples of *w* directly followed by /o/. This could be the result of a constraint against sequences of rounded segments.

Minimal and near-minimal pairs for /w/ include the following:

/w/	~	**/p/:**	wi3	2 pl (family members)	~	pi30	*poult*
/w/	~	**/k/:**	wi3	2 pl (family members)	~	ki32	*grass*
/w/	~	**/m/:**	wa3	2plex	~	ma30	*mom*

2.5.2.2 Apico-dentals and lamino-alveolars

Among the apico-dentals /r/, /tz/ are the only phonemes lacking a lamino-alveolar variety. The phoneme /s/ becomes *x* when it undergoes laminalization in the Habitual or Potential aspects.

/t/

The apico-dental *t* [t̪] can occur as a single consonant in the onset of a word or a syllable, or as the second consonant in a consonant cluster (only *st* and *xt*). When it is preceded by a nasal, *t* is voiced and becomes [d̪]:

ti3	[t̪i]	*ten*
tan2	[t̪ɑ̃]	*grease*
t'ya30	[t̪ja]	*intelligent*
sti3 kolan2	[st̪i kulɑ̃]	*grandfather*
nda3	[nd̪a]	*bean*
nde32	[nd̪e]	here
ti.ta2	[t̪it̪a]	*shrimp*
la.te73	[lat̪eʔ]	*cloth*
na.ten3	[nat̪ɛ̃]	*people*
lo.ti31	[lot̪i]	*rope*
kwi.ton3	[kʷit̪ũ]	*bee*
kwi.to72	[kʷit̪ɔʔ]	*hen*
ngo.t'yo32	[ngot̪jo]	*he/she fell*
to.kwin31	[t̪okʷĩ]	*path*
te.7en2	[t̪ɛ̃ʔɛ̃]	*jar*
ta.7a3	[t̪aʔa]	*party*
ti.jyan2	[t̪ihnjɑ̃]	*bone*
nga.xti.kwi30	[ngaʃt̪ikʷi]	*he/she hung*
nda.la	[nd̪ala]	*hurry up*
ndo.lan30	[nd̪ulɑ̃]	*I dance*
ndi.7ya3	[nd̪iʔja]	*beautiful*

Minimal and near-minimal pairs for /t/ include the following:

/t/	~	**/tz/:**	tan2	*grease*	~	tzan3	*day*
/t/	~	**/ty/:**	tita2	*shrimp*	~	titya21	*squirrel*
/t/	~	**/n/:**	ti3	*ten*	~	ni32	*now*
/t/	~	**/s/:**	loti31	*rope*	~	losi31	*butterfly*

/ty/

The lamino-alveolar *ty* [t̪] can occur as a single consonant in the onset of a word or a syllable or as the second consonant in a consonant cluster (only *xty*):

tyo31	[t̪o]	*clay*
mi.xtyon30	[miʃt̪ũ]	*cat*
ki.tyi32	[kit̪i]	*paper*
li.tya21	[lit̪a]	*amaranth*
ndi.tyan21	[nd̪it̪ɑ̃]	*I am bathing*
ki.tye32	[kit̪e]	*pine*
tyo.kwen21	[t̪okʷɛ̃]	*bedbug*
tyi.jin32	[t̪ihɪ̃]	*he/she will pass*
ndyi.kwen3	[nt̪ikʷɛ̃]	*he/she vomits*
ndyi.nya.7an	[nt̪injɑ̃7ɑ̃]	*he/she sees*

Minimal pairs for /ty/ include the following:

/ty/ ~ **/t/:** titya21 *squirrel* ~ tita2 *shrimp*

/tz/

The apico-dental *tz* [ts] occurs as a single consonant in the onset of a word or a syllable:

tzan3	[tsɑ̃]	*day*
tzi3	[tsi]	*Zacatepec*
ka.tzi32	[katsi]	*yellow*
kwi.tze731	[kʷitseʔ]	*pus*
ndzo.kwa73+	[ndzukʷaʔ]	*corn*
ndza.ten3	[ndzatɛ̃]	*cherry*

Minimal pair for /tz/ include the following:

/ts/ ~ **/t/:** tzan3 *day* ~ tan2 *grease*

/s/

The apico-dental *s* [s] occurs as a single consonant in the onset of a word or a syllable, or as the first consonant in a consonant cluster:

ska3	[ska]	*one/a*
sti3 kolan2	[sti kulɑ̃]	*grandfather*
ta.sa32	[t̪asa]	*cup*
lo.si31	[losi]	*butterfly*
yo.sin3	[josĩ]	*sand*
li.ston3	[lis̪tũ]	*ribbon*
ki.so32	[kiso]	*avocado*
ka.ra.sya3	[karasja]	*heart*
si.tyon30-3	[si̪tũ]	*dove*
so.kwa3	[sukʷa]	*five*
se.7en3	[sɛ̃ʔɛ̃]	*place*
ski.na3	[skina]	*sandal*

/x/

The lamino-alveolar fricative *x* pronounced [ʃ̻] can occur as a single consonant in the onset of a word or a syllable or as the first in a consonant cluster:

xa31	[ʃ̻a]	*clarity*
xu731	[ʃ̻uʔ]	*old person*
li.xa32	[liʃ̻a]	*orange*
ngwi.xi30-3	[ngʷiʃ̻i]	*tomato*
ki.xin732	[kiʃ̻ĩʔ]	*grass/countryside*
xo.ni732	[ʃ̻uniʔ]	*dog*
xka.le32	[ʃ̻kale]	*alcalde*
xko.la32	[ʃ̻kula]	*chocolate*

xkwi.la32	[ʃ̻kʷila]	*escuela*
nga.xti.kwi30	[ngaʃ̻t̻ikʷi]	*he/she hung*

Near minimal and minimal pairs for /ch/ include the following:

/x/	~	**/ch/:**	koxa32	*needle* ~	kocha2	*sun*
/x/	~	**/y/:**	xa31	*clarity* ~	ya31	*nopal* (cactus)

/r/

r is pronounced as a tap [ɾ] and is found so far only in a few borrowings and in a demonstrative (re32). It can occur as a single consonant in the onset of a word or a syllable, or as the second consonant in a consonant cluster:

re3	[ɾe]	*king*
wa3 re32	[ba ɾe]	1plex
wra3	[bɾa]	*hour*
ka.ra.sya3	[karasja]	*heart*
ko.ro.si32	[kurusi]	*cross*

/l/

The apico-dental *l* [l] can occur as a single consonant in the onset of a word or a syllable, or as the first consonant in a consonant cluster in the final syllable:

la2	[la]	*church*
lo3	[lo]	*on (PREP)*
ka.la3	[kala]	*twenty*
si.l'ya3	[silja]	*topil* (guardian)
ta.lo21	[t̻alo]	*his/her face*
la.ka31	[laka]	*yesterday*
li.ston3	[lis̻tũ]	*ribbon*
lo.si31	[lusi]	*butterfly*

Minimal pair for /l/:

/l/ ~ **/n/:** la2 *iglesia* ~ na31 *thing*

/ly/

The lamino-alveolar *ly* [l̪]can occur as a single consonant in the onset of a word or a syllable, or as the second consonant in a consonant cluster in the penultimate syllable:

lya72	[l̪aʔ]	*bitter*
lye730	[l̪eʔ]	*baby*
lyi730	[l̪iʔ]	*parrot*
si.lya721	[sil̪aʔ]	*sheep*
ti.lya3	[t̪il̪a]	*food*
chi.lyo32	[tʃil̪o]	*knife*
ndzo.lyi730	[ndzul̪iʔ]	*swing*
kwi.lyo.7o3	[kʷil̪ɔʔo]	*husband*
ti3 jlya.kwa31	[t̪i hl̪akʷa]	*fourteen*

Near minimal pair for *ly* include the following:

/ly/ ~ **/l'y/:** silya721 *sheep* ~ sil'ya3 *topil* (policía-guardian)

/n/

The apico-dental *n* [n] can occur as a single consonant in the onset of a word or a syllable, or as the first or second consonant in a consonant cluster:

na31	[na]	*thing*
ni32	[ni]	*now*
ne73	[neʔ]	person / 3pl

non3	[nũ]	NOM/REL
xo.ni732	[ʃ̻uniʔ]	*dog*
na.7ni3	[naʔni]	*animal*
ti.ne2	[t̻ine]	*blood*
so.non73	[sunũʔ]	*eight*
na.7an3	[naʔã]	*house*
na.ten3	[natɛ̃]	*people*
ni.7an32	[niʔã]	*inside*
no.7win3	[nuʔwĩ]	*you*

Near minimal pairs for /n/ include the following:

/n/	~	**/l/:**	na31	*thing*	~	la2	*church*
/n/	~	**/t/:**	ni32	*now*	~	ti3	*ten*

/ny/

The lamino-alveolar *ny* [n̻] can occur as a single consonant in the onset of a word or a syllable, or as the first or second consonant in a consonant cluster. This sound occurs often as the result of a nasal spreading process coming from the following nasal vowel. For example, in the words for *my mother* 'jya7an30', *venom* 'yan2' or *my feet* 'kiyan73' the nasal feature spreads to the preceding glide giving respectively [hnjaʔã], [njã] and [kinjãʔ].

7nyan30	[ʔn̻ã]	DAT.1S
yan2	[n̻ã]	*venom*
ndi.nyan3	[nd̻in̻ã]	*comal*
ki.7nyan2	[kiʔn̻ã]	*bed*
ti.jnyan31	[t̻ihn̻ã]	*work*
ki.nyi32	[kin̻i]	*bird*
si.nye72	[sin̻eʔ]	*offspring*
ti.7nyon3	[t̻iʔn̻ũ]	*fifteen*

Minimal pair for *ny* include the following:

/n/	~	**/ny/:**	nan3		1plin	~	yan3	years

2.5.2.3 Palatals

/ch/

The palatal *ch* [ʧ]can occur as a single consonant in the onset of a word or a syllable or as the second consonant in a consonant cluster:

cha731	[ʧaʔ]	*word*
chin730	[ʧĭɪʔ]	*a little*
ki.cha3	[kɪʧa]	*disease*
ki.chen3	[kɪʧɛ̆]	*village*
kwi.chi31	[kʷɪʧi]	*tiger*
ti.chon72	[t̪ɪʧũʔ]	*back* (N)
ti.cho73	[t̪ɪʧɔʔ]	*pineapple*
cha.ka2	[ʧaka]	*other*
chi.jya	[ʧihja]	*Mexico*

Near minimal pairs for *ch* include the following:

/ch/	~	**/x/:**	kocha2	sun	~	koxa32	*needle*
/ch/	~	**/y/:**	cha731	word	~	ya732	*his/her hand*

/y/

The palatal glide *y* pronounced [j] can occur as a single consonant in the onset of a word or a syllable or as the second consonant in a consonant cluster. Also, it never occurs before an /i/:

ya31	[ja]	*nopal*
ya732	[jaʔ]	*his/her hand*
yo3	[jo]	*earth*
nd'yo32	[nd̪jo]	*he/she is grinding*

ya.ka3	[jaka]	*tree*
yo.sin3	[josɪ̃]	*sand*
ngo.t'yo32	[ngoʈjo]	*he/she fell*
si.lya3	[silja]	*topil (guardian)*
ndi.yo3	[nɖjo]	*he/she grinds*
ki.7ya3	[kiʔja]	*his/her foot*

Near minimal and minimal pairs for /y/ include the following:

/y/	~	**/w/:**	ya31	*nopal*	~	wa3	1plex
/y/	~	**/x/:**	ya31	*nopal*	~	xa31	*clarity*

2.5.2.4 Velar

/k/

The velar *k* [k]can occur as a single consonant in the onset of a word or a syllable, or as the second consonant in a consonant cluster. When it is preceded by a nasal, it is voiced and becomes [g].

ka3	[ka]	*nine*
ke3	[ke]	*rock*
ki32	[ki]	*grass*
ko2	[ko]	*cloud*
kon3	[ka]	*tortoise*
ska3	[ska]	*one* (DET)
ka.la3+	[kala]	*twenty*
ko.la3	[kola]	*old*
sko.7we31	[skuʔwe]	*Juquila*
nga.ten31	[ngaten]	*white*
ngo.ti3	[nguti]	*trash*
la.ka73	[laka]	*leaf*
ti.ke73	[tikeʔ]	*heat*
ki.ko21	[kiko]	*well* (N)

ji.ke13 [hike] *your head*

/k/ ~ **/p/:** pi30 *poult* ~ ki32 *grass*
/k/ ~ **/w/:** wi3 2 pl (family members) ~ ki32 *grass*

2.5.2.5 Labio-velar

/k^{w}/

The labio-velar *kw* [k^{w}] can occur as the first or second consonant in the onset of a word or of a syllable. Despite the fact that no minimal pairs that would distinguish between /kw/ and /k^{w}/ have been found in the corpus, it is still analyzed as a single sound and not as a consonant cluster. A list of words containing *kw* is presented below:

kwe73	[k^{w}eʔ]	*crab*
kwi31	[k^{w}i]	*evening star*
ngwa3	[ng^{w}a]	*already*
nga.ya.kwen32	[ngajak^{w}ɛ̃]	*he/she vomited*
kwila3	[k^{w}ila]	*fish*
kwi.chi31	[k^{w}itʃi]	*tiger*
xkw.ila32	[xk^{w}ila]	*school*
ngwe.je3	[ng^{w}eje]	*epazote*
nga.xti.kwi30	[ngaʃtik^{w}i]	*he/she hung*

/kʷ/	~	**/k/:**	kwi31	*evening star*	~	ki32	*grass*
/kʷ/	~	**/w/:**	kwi31	*evening star*	~	wi3	2 pl (family members)

2.5.2.6 Laryngeals

/j/

j is pronounced as a laryngeal fricative [h]. It can occur as a single consonant in the onset of a word or a syllable, or as the first in a consonant cluster. Also, because I have not found minimal pairs in the corpus that would distinguish between /jy/ and /jʸ/ or /jw/ and /jʷ/ I analyze them as clusters:

ja72	[haʔ]	*mat*
jan72	[hãʔ]	*the aforementioned*
ji2	[hi]	*ashes*
jon31	[hũ]	*thread*
kya.ja3	[kjaha]	*tortilla*
ta.ja30	[t̪aha]	*lazy*
ngwe.je3	[ngʷehe]	*epazote* (herb)
te.je73	[t̪ehe]	*salt*
kwi.ji31	[kʷihi]	*skunk*
li.jya3	[lihja]	*cane sugar*
ti.jyan2	[t̪ihnjɑ̃]	*bone*
tzo.jwen31	[tsuhwɛ̃]	*rough*
ja.kwa3	[hakʷa]	*four*
ja.7wa3+	[haʔwa]	*banana*
ji.ke13	[hike]	*your head*
ji.wi30	[hiβi]	*whistled*
jo.7o32	[hɔʔo]	*saint*
jya.ten21	[hnjatɛ̃]	*mosquito*
jlya.kwa3	[hl̪akʷa]	*flat*

Near minimal pairs for /j/ include the following:

/j/	~	**/7/:**	ja72	*mat*	~	7a21	*very*
/j/	~	**/y/:**	ja72	*mat*	~	ya732	*his/her hand*

/7/

7 is pronounced as a glottal stop [ʔ]. It can occur as a single consonant or as the first consonant in a consonant cluster in the onset of a monosyllabic word or in a final syllable of a polysyllabic word:

7a21	[ʔa]	*EMPH*
7in3	[ʔĩ]	DAT
7nyan30	[ʔnɑ̃]	DAT.1S
ta.7a3	[t̪aʔa]	*party*
ti.7a3	[t̪iʔa]	*water*
te.7en2	[t̪ɛ̃ʔɛ̃]	*jar*
kwi.7in3	[kʷiʔĩ]	*air*
jo.7o32	[hɔʔo]	*saint*
ji.7o21	[hiʔo]	*ashamed*
na.7ni3	[naʔni]	*animal*
ki.7na32	[kiʔna]	*plate*
ki.7ya32	[kiʔja]	*mountain*
sko.7we31	[skuʔwe]	*Juquila*
ngo.7wan3	[nguʔwɑ̃]	*you all*
xo.na.7en13	[ʃ̪unɑ̃ʔɛ̃]	*scorpion*

Near minimal pairs for /7/ include the following:

/7/	~	**/k/:**	lo7o31	*corral*	~	loko32	*crazy*
/7/	~	**/j/:**	ta7a3	*party*	~	taja30	*lazy*

2.6 Tonal system

This tonal system has three basic levels of pitch 1, 2, 3 (where 1 is the highest and 3 the lowest) and a super high pitch level is also found in one tone group and in sandhi forms. It includes level tones as well as contour tones.

There exist 8 tone categories (2, 3, 3+[2], 21, 32, 31, 30 and 13) that apply to words and distinguish between lexical items, and also carry grammatical function such as person marking. Tone categories refer to a set of tones aligning to the mora and creating sandhi in phrasal contexts. In ZC, monosyllabic and disyllabic words are dimoraic. Also, it appears that not all moras carry a specific tone. As a result, some words can be specified for tone on each mora, some for only one mora and some others not specified for tone at all. When a mora is unspecified for tone, its pitch level can either be low or reflect whatever level of the preceding word. For example, a word carrying a tone 3 lets the high tone of a preceding tone 21 travel through the entire word and the low tone ends up carrying a leveled high tone.

The pitch tracks presented in this section involve one female speaker of about 60 years of age, so the pitch levels in the descriptions for each tone category only apply to that specific speaker. On the other hand, the shape of the tone remains the same for all speakers.

Table 6 below summarizes the characteristics of each tone category in ZC. The last column on the left specify the targets[3] of each tone category and its mora alignment. The L, M, H and H^+ stand for the levels 3, 2, 1, and 0 respectively. The circumflex accent indicates that the

---

[2] The + sign following the number 3 is a notation mark that allows to differentiate between the two tone 3 categories

[3] A target is the pich level a speaker aims at when articulating a word.

tone category in question upsteps[4] the pitch level of the following word; also when the latter phenomenon engenders a super high raise, the diacritic is marked by a + sign (ˆ+).

Table 6*: Characteristics of ZC tone categories*

	Fully reflects previous tone	Partially reflects previous tone	Upsteps tone in next word	Tones and alignment
2	—	—	—	M M | | [...μ μ]
21	—	—	—	M H | | [...μ μ]
32	—	+	+	M | [...μ μ]ˆ
31	—	+	—	LH | [...μ μ]
30	—	—	—	LH+ | [...μ μ]
3	+	—	—	| | [...μ μ]
3+	+	—	+	L | | [...μ μ]ˆ
13	—	—	—	H L | | [...μ μ]

2.6.1 Tonal categories and their characteristics

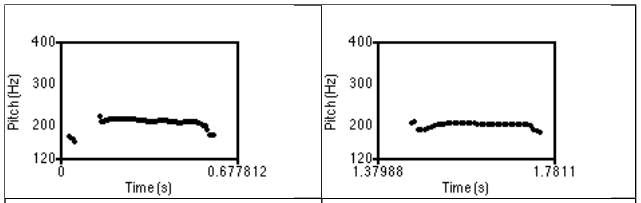
Tone 2

Tone 2 is one of the most stable tone groups. It has a mid level target on each mora. It does not undergo any upstep from previous words. Neither does it upstep the following word. A list of words carrying tone 2 is presented below:

[4] The pitch range of a low tone is raised after a high tone so a sequence of HL for example, becomes phonetically HH.

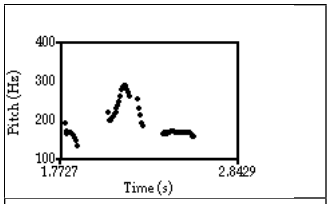
la2	*church*
ja72	*mat*
xen2	*large*
ji2	*ashes*
kon2	*sweet potato*
kinyan72	*trunk*
tijyan2	*bone*
te7en2	*jar*
kixin2	*ample*
ngonwen2	*ripe*
kwito72	*hen*
kokwen72	*armadillo*

Figure 1: *Monosyllabic and disyllabic tone 2*



ngowen2 - 'ripe' | xen2 - 'large'

Figure 2**:** *Tone 2 in phrasal context*



mixtyon30 + nga7a2
mixtyon30 nga7a2
'green cat'

Figure 2 above shows the invariability of tone 2 even when it is preceded by a word with a super high target.

Minimal pairs for tone 2:

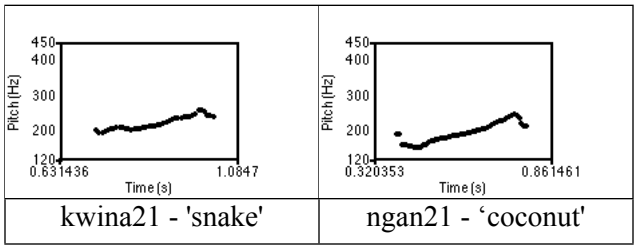
2 - 3:	kinyan72	*trunk*	kiyan73	*my feet*
2 - 31:	kinyan72	*trunk*	kinyan731	*chile*
2 -21:	nga7a2	*green*	nga7a21	*red*

Tone 21

Tone 21 is characterized by a gradual rise from a mid tone to a high tone. A word with tone 21 has a mid level target on the first mora and and a high level target on the last one. It is a stable tone because it does not reflect the final target of preceding words and does not upstep tones of following words. Below is a list of examples carrying tone 21:

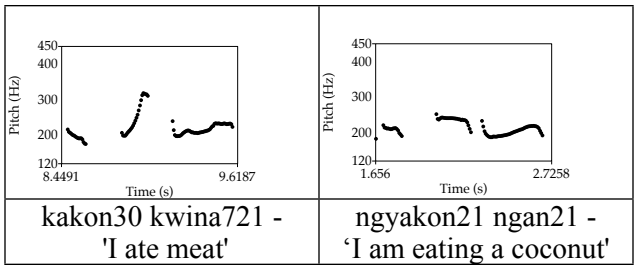
ngan21	*coconut*
yon21	*I ground*
nga7a21	*red*
jya7an21	*his/her mother*
titya21	*squirrel*
jyaten21	*mosquito*
kwina21	*snake*
sikon21	*my arm*
lo7o21	*with*

Figure 3**:** *Monosyllabic and disyllabic tone 21*



kwina21 - 'snake' | ngan21 - ‘coconut'

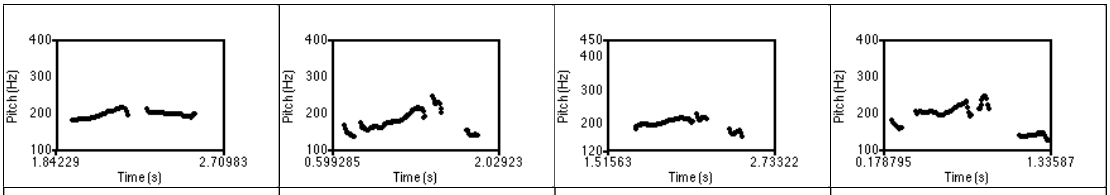
Figure 4: *Tone 21 in phrasal context*



kakon30 kwina721 - 'I ate meat'	ngyakon21 ngan21 - ‘I am eating a coconut'

Figure 4 above shows the invariability of tone 21 even when it is preceded by words showing a high or super high tone target such as a tone 30 and 21.

Figure 5: *More of tone 21 in phrasal context*



kwina21 + kola3 kwina21 kola3 'old snake'	ngayo21 + kita32 ngayo21 kita32 'you ground flour'	kwina21 + ngata31 kwina21 ngata31 'black snake'	yakon21 + ja7wa3+ yakon21 ja7wa3 'I ate a banana'

Figure 5 shows how a tone 21 affects the pitch level of the following words on the portion not specified for tone. In the first pitch track on the left, the word *kola3* is not specified for tone at all so it lets the high target of the preceding tone 21 travel through it. For all the other pitch track examples , the final target of tone 21 only spreads to the portion of the word that is not tone specified.

Minimal pairs for tone 21:

21 - 2	nga7a21	*red*	nga7a2	*green*
21 - 31	lo7o21	*with*	lo7o31	*corral*
21 - 3	kiko21	*well* (N)	kiko3	*comb*
21 - 30	jya7an21	*his/her mother*	jya7an30	*my mother*

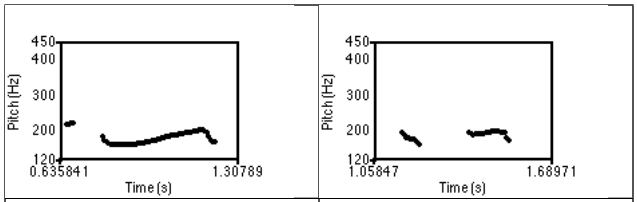
21 - 32 nd'yo21 *you are grinding* nd'yo32 *they are grinding*

Tone 32

Tone 32 is defined by a gradual rise from a low pitch level to a mid tone. It seems that this tone group has only one target, which is reaching the mid tone level. This phenomenon is clear when it finds itself in phrasal context preceded by a tone category carrying a high target or an upstep feature. In that situation, tone 32 undergoes an upstepping on the first mora which is unspecified for tone, transforming it into a falling tone. Below, some examples of words with tone 32 are presented:

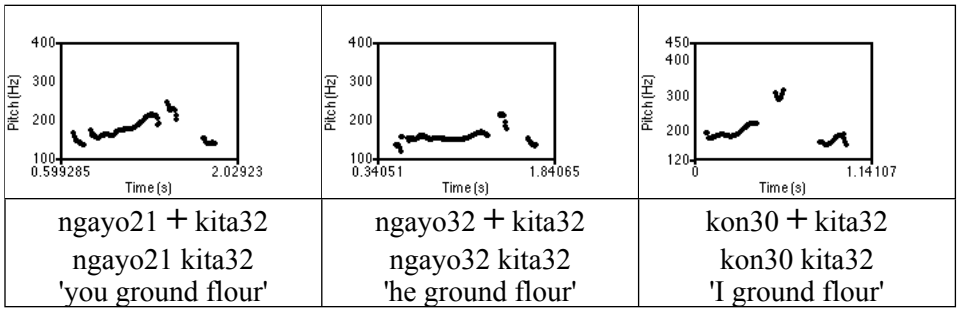
ya732	*his/her hand*
ke32	*flower*
nde32	*here*
ki32	*grass*
kyo732	*century plant*
kita32	*flour*
kitye32	*pine*
kixin732	*grass/countryside*
konon732	*worm*
jo7o32	*saint*
kiso32	*avocado*
ngayakwen32	*he/she vomited*

Figure 6: *Monosyllabic and disyllabic tone 32*



ke32 - 'flower' | kita32 - 'flour'

Figure 7: *Tone 32 in phrasal context*



ngayo21 + kita32	ngayo32 + kita32	kon30 + kita32
ngayo21 kita32	ngayo32 kita32	kon30 kita32
'you ground flour'	'he ground flour'	'I ground flour'

Figure 7, presents tone 32 in phrasal context when it is preceded by tones that either upstep the following word such as *ngayo32* 'he/she ground' or by tones whose final target spreads into the unspecified left mora of the following word such as *ngayo21* 'you ground' or *ngayon30* ' I ground'.

Minimal pairs for tone 32:

32 - 21	nd'yo32	*they are grinding*	nd'yo21	*you are grinding*
32 - 31	kita32	*flour*	kita31	*chepil* (herb)
32 - 3	ke32	*flower*	ke3	*rock*

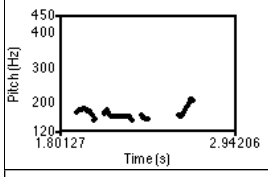
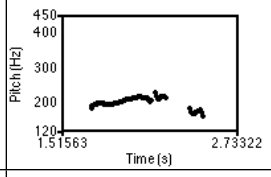
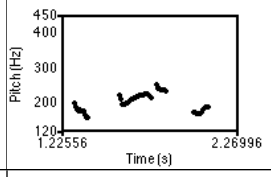
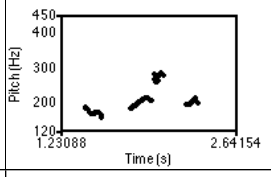
Tone 31

Tone 31 is characterized by a rise from a low tone to a high tone. Words with tone 31 have two targets (3 and 1) on their final mora. As a result, their left boundary reflects the target of the preceding word. Below, some examples of words carrying tone 31 are presented:

xa31	*clarity*
na31	*thing*
lye731	*baby*
jon31	*thread*
yakwa31	*atole* (beverage)

tinyan31	*work*
ngaten31	*white*
kityin731	*blind*
kwatsi731	*iguana*
kiton31	*weapon*
ko731	*cloud*
lo7o31	*corral*

Figure 8: *Tone 31 in phrasal context*

			
kyaja3 + ngata31 kyaja3 ngata31 'black tortilla'	kwina21 + ngata31 kwina21 ngata31 'culebra negra'	kwichi31 + ngata31 kwichi31 ngata13 'tigre negro'	mixtyon30 + ngata31 mixtyon30 ngata31 'gato negro'

In figure 8, the first pitch track on the left shows that tone 3 does not affect the pitch level of following tone 31. Its first mora stays low and the second mora raises from a low to a high tone. On the other hand, all other pitch tracks in the figure show that when a tone 31 is preceded by a tone with a high final target such as tone 21 and 31 or by a super high tone target such as tone 30, its first mora (which is unspecified for tone) reflects the preceding tone target.

Minimal pairs for tone 31:

31 - 2	kinyan731	*chile*	kinyan72	*trunk*
31 - 3	kita31	*chepil* (herb)	kita3	*tobacco*
31 - 21	lo7o31	*corral*	lo7o21	*with*

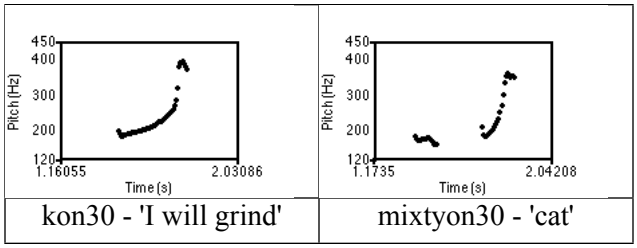
31 - 32	kita31	*chepil*	kita32	*flour*
31 - 13	ngyata31	*I am bathing*	ngyata13	*he/she is bathing*

Tone 30

Tone 30 is characterized by a very sharp rise from a low to a super high tone. Tone 30 has three targets: 3 on the first mora and 3 - 0 on the last mora. It a stable tone which does not reflect the target of the previous tone. Neither does it carry any upstep feature. Nevertheless, its super high target spreads onto unspecified moras of following words. Some examples of words with tone 30 are presented below:

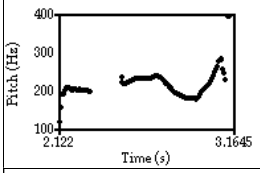
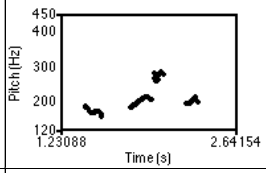
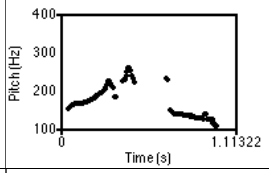
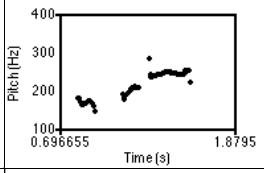
kya30	*tomorrow*
lye730	*baby*
lyi730	*parrot*
kon30	*I will grind*
kwisa30	*insect*
kwi7in30	*fan*
jiwi30	*whistle* (N)
mixtyon30	*cat*
soko730	*grasshopper*
ndzolyi730	*swing*
si30-tyon3	*dove*
ngwi30-xi3	*tomato*

Figure 9: *Monosyllabic and disyllabic tone 30*



kon30 - 'I will grind' | mixtyon30 - 'cat'

Figure 10 : *Tone 30 in phrasal context*

			
yakon21+ l'i730 yakon21 l'i730 'I ate a parrot'	mixtyon30 + ngata31 mixtyon30 ngata31 'black cat'	kon30 + ja7wa3+ kon30 ja7wa3 'I will grind a banana'	mixtyon30 + kola3 mixtyon30 kola3 'old cat'

The first pitch track on the left shows the invariability of tone 30 even when it is preceded by a word with a high final target, and the other ones present the sandhi effects engendered by a tone 30 on following portions of words (or entire words as in the last pitch track on the right) which are not tone specified. The super high target of tone 30 spreads into those unspecified moras raising their pitch to a super high level.

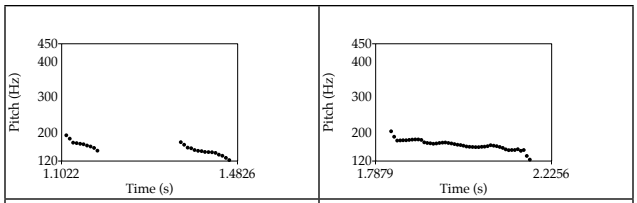
Minimal pairs for tone 30:

30 - 3	kwi7in30	*fan*	kwi7in3	*air*
30 - 21	jya7an30	*my mother*	jya7an21	*his/her mother*

Tones 3 and 3+

Tone 3 category is not clearly understood at this point in the documentation process. In general it is characterized by a slightly falling low pitch level. It seems to be divided into two groups whose contrasts are only revealed in phrasal contexts. In isolation, both types of tone 3 have a similar shape and pitch level as shown in figure 11:

Figure 11: *Tone 3 and 3+ in isolation*



kita3 'tabacco'	tila3+ 'night'

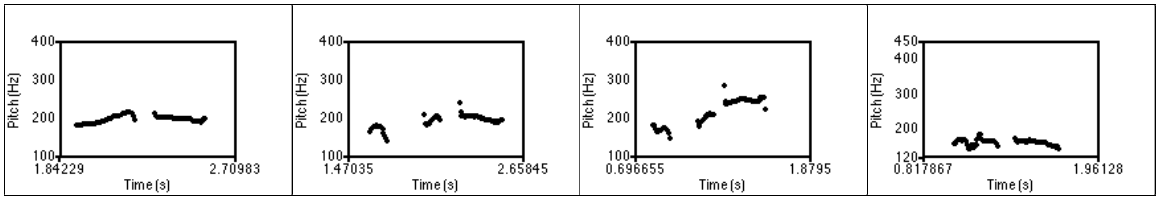
Tone 3

Tone 3 appears to be unspecified for tone so it undergoes drastic changes of pitch levels in phrasal context. Words carrying tone 3 allow high targets from preceding words to travel through, making them fully reflect the tone target of the previous word.

Examples of words with tone 3 are presented below:

nda3	*bean*
ke3	*rock*
ti3	*ten*
kyaja3	*tortilla*
ngweje3	*epazote* (herb)
kiyan73	*my feet*
kwiyo73	*spider*
yosin3	*sand*
kola3	*old*
kita3	*tobacco*
ngotzo73	*mud*

Figure 12: *Tone 3 in phrasal context*



kwina21 + kola3 kwina21 kola3 'old snake'	kwichi31 + kola3 kwichi31 kola3 'old tiger'	mixtyon30 + kola3 mixtyon30 kola3 'old cat'	kyaja3 + kola3 kyaja3 kola3 'old tortilla'

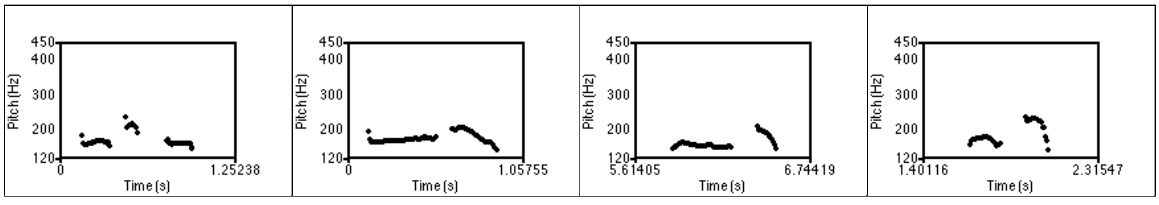
Figure 12 shows that because words with tone 3 are unspecified for tone they fully reflect the final target of preceding words. The high final target of tones 21, 31 and 30 spread to the entire word *kola3* whose pitch gets raised to a high level. However, the last pitch track on the right shows that the low pitch level of the tone 3 does affect the pitch level of the following tone 3.

Tones 3+

Words carrying tone 3+ have a low tone on the last mora. In phrasal context they seem to introduce a falling tone to the following words that are unspecified for tone, i.e. words with tone 3. Examples of words with tone 3+ are presented below:

lo3+	*surface*
re3+	*king*
naten3+	*people*
ko3+	*he/she will grind*
Ja7wa3+	*banana*
tila3+	*night*
kwiya73+	*mushroom*
ndzokwa73+	*corn*

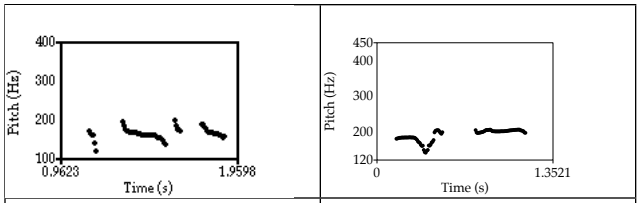
Figure 13: *Tone 3+ in phrasal context*



ko3+ + kyaja3 ko3 kyaja3 'he/she will grind tortilla'	ko3+ + nda3 ko3 nda3 'he/she will grind bean'	kala3+ + ke3 kala3 ke3 'twenty stones'	lo3+ + ki73 lo3 ki73 'in the fire'

Figure 13 shows that tone 3 words which are unspecified for tone, undergo an insertion of a falling tone (presumably tone 13) when preceded by a tone 3+.

Figure 14: *More tone 3+ in phrasal context*

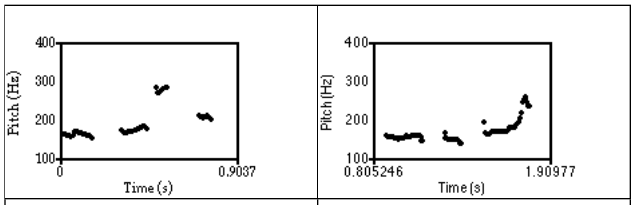


ja7wa3+ + nga7a2 ja7wa3 nga7a2 'green banana'	ko3+ + ja7wa3+ ko3 ja7wa3 'he/she will grind banana'

Figure 14 shows that tone 3+ does not affect words carrying a tone 2 such as *nga7a2* 'verde' because both mora are specified for a mid level tone. On the other hand, it raises the pitch level of the word *ja7wa3+,* turning it into a tone 2. The reason why a tone 3+ turns a tone 3 into a falling tone 13 as shown in figure 13, and turns another tone 3+ into a tone 2 is unclear at this point. More data and systematic matching of tone 3 and 3+ with all other tone categories is needed to be able to present accurately the sandhi processes for these two tone groups.

Another intriguing and unexplained phenomenon with tone 3+ is that some words in this category seem to upstep the following word to a super high target. For example, the figure on the left in figure 15 presents a tone 3+ followed by a tone 31 where its unspecified mora gets upstepped to a super high pitch level. In the figure on the right, the tone 3+ is followed by a tone 3 which is not specified for tone at all and the last mora gets a super high tone.

Figure 15: *Tone 3+ (super high) in phrasal context*



wata3+ + ngata31	wata3+ + kola3
wata3 ngata31	wata3 kola3
'black cow'	'old cow'

Minimal pairs for tone 3:

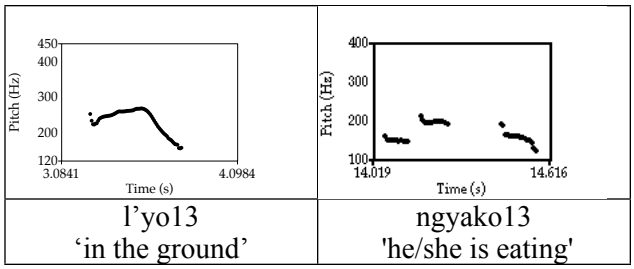
3 - 32	kita3	*tobacco*	kita32	*flour*
3 - 31	kita3	*tobacco*	kita31	*chepil* (herb)
3 - 30	ndyikwen3	*he/she vomits*	ndyikwen30	*I vomit*
3 - 13	ke3	*rock*	ke13	*your head*

Tone 13

Tone 13 is defined by a gradual fall from a high tone to a low tone. A word carrying tone 13 has two targets (high and low): one on each mora. There is a lack of data in the corpus showing how a tone 13 reacts when preceded by a tone with a high target, so the pitch track examples below only present the sandhi engendered in words preceded by a tone 13 but none for words followed by a tone 13.

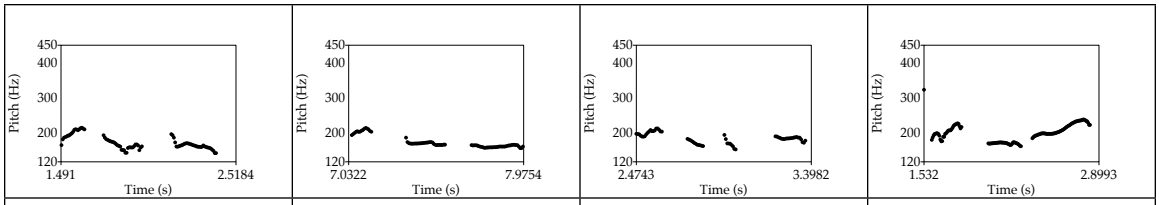
ke13	*your head*
l'yo13	*on the ground*
to7wa13	*your mouth*
ngyako13	*he/she is eating*
ndija13	*he/she is dying*
ngojwi13	*you died*

Figure 16: *Monosyllabic and disyllabic tone 13*



l'yo13 'in the ground'	ngyako13 'he/she is eating'

Figure 17: *Tone 13 in phrasal context*



ngyako13 + ja7wa3+ ngyako13 ja7wa3 'he/she is eating a banana'	ngyako13 + nda3 ngyako13 nda3 'he/she is eating beans'	ngyako13 + kita32 ngyako13 kita32 'he/she is eating flour'	ngyako13 + ngan21 ngyako13 ngan21 'he/she is eating coconut'

The example pitch tracks in figure 17 above show that tone 13 does not affect the pitch levels of following words.

Minimal pairs for tone 13:

13 - 3	ke13	*your head*	ke3	*rock*
13 - 2	ngyako13	*he/she ate*	ngyako2	*you are eating*
13 - 30	to7wa13	*your mouth*	to7wan30	*my mouth*
13 - 21	ndajinyan13	*I am asking*	ndajinyan21	*he/she is asking*
13 - 31	ngyata13	*he/she is bathing*	ngyata31	*I am bathing*
13 - 32	ngayo13	*you ground*	ngayo32	*he/she ground*

Chapter Three

Basic Morpho-Syntax

The organization of this chapter is based on two principles: the evolution from most commonly found to least commonly found in the language, and from simplest to more complex constructions. As a result, the approach taken here consists in evolving from the description of simple syntactic structures to more complex ones while taking the opportunity to discuss their respective morphological and syntactic features along the way.

3.1 Simple Sentences

3.1.1 Verb inflections

This section deals with the morphology of verbs. First, aspectual morphology with all the aspect morphemes and their allomorphs is presented and then the uses of the latter are discussed. A section examining the patterns of subject person marking on verbs follows.

3.1.1.1 Aspectual morphology

ZC verbs realize one of four aspects : Completive (C), Potential (P), Habitual (H) and Progressive (Pro). Aspectual distinction is realized through morphology and/or tone contrast. The selection of the aspectual allomorph is not well understood at this point in my research. For some cases it seems to depend on the morphophonological characteristics of the verbal root. For example, if the verbal root starts with an *n* or a *t*, potential aspect is marked by laminalization of

that consonant, but for most cases, the choice of the allomorph is not as straight forward and is still not clear. Rasch 2002 states for Yaitepec Chatino that the selection appears to be arbitrary, but a historically based verb classification would probably shed light on both the pattern of allomorph selection and the identification of verbal roots. Also, in some cases, the boundary between verbal root and aspectual morpheme is not clear. For some verbs, the initial vowel of the root changes from /a/ to /o/ according to aspect or person. The latter phenomenon also occurs in Zenzontepec, another conservative variety of Chatino, and it was analyzed by Campbell (2009) in his paper on Zenzontepec verbs as a transitivity feature. This change could also be the way the Zacatepec marks transitivity/intransitivity, but work on verbs is ongoing and at present the vowel change phenomenon cannot be accounted for.

The following subsections illustrate all forms of the aspectual morphemes by aspect. The verb forms are presented in the third person singular bearing the default tone (without inflection for person).

3.1.1.1.1 Aspectual morphemes and their allomorphs

In the Potential aspect the least allomorphic variation exists, so this aspect could be a useful form to distinguish the verbal root boundaries. The Habitual form is the one with most variation, and some of its allomorphs are the same as the progressive markers. The similarity between these two aspects is also found in other varieties of Chatino (Yaitepec and Zenzontepec).

Table 7 below illustrates all the aspectual allomorphs for all aspects:

Table 7: *Aspectual allomorphs*

Completive	nga-, ngay-, ngo-, ngwi-, y- and ∅
Potential	k-, Laminalization, ∅
Habitual	l-, ndi-, ndi-+y-, ndi-+Lam, ngy-, preceded by a nasal, +/- Lam, ∅
Progressive	l-, ndy-, ngy-, ndi-, nda-

Table 8 presents a list of verbs conjugated in all aspects in the third person singular. Verb tones appear to show some regular patterns that lead to some degree of tonal predictability according to the aspect. The Habitual and Potential forms consistently bear the same tone. This is also the general tendency for Completive and Progressive forms, although tone similarity between these two aspects is not as consistent as between Habitual and Potential forms.

Table 8: *Verb list for all aspects (3rd pers. forms)*

Verb	Completive	Progressive	Habitual	Potential
dance	*ngayola31*	*ngyola31*	*ndola3*	*kola3*
sweep	*ngalokwa31*	*ndalokwa31*	*ndolokwa3*	*kolokwa3*
sew	*ngwixikwan30-3*	*ndixikwan30-3*	*ndixikwan30-3*	*xikwan30-3*
sleep	*yaja731*	*laja713*	*ndijya73*	*kaja73*
turn in	*ngwitya21*	*ndyitya21*	*ndya21*	*tya21*
go out	*ngoto7o21*	*ndato7o21*	*ndyo7o30*	*tyo7o30*
see	*na7an2*	*ndana7an13*	*ndyinya7an3*	*nya7an3*
grind	*ngayo32*	*ndyo32*	*ndiyo3*	*ko3*

3.1.1.1.2 The uses of aspectual morphemes

At this point in my research, the uses of aspectual morphemes is not very clear. So, this section will not provide an analysis of their uses but rather an account of where and in what context they occur in the corpus.

3.1.1.1.2.1 Potential aspect

Potential aspect occurs in a variety of grammatical constructions. It is mainly used for expressing events that have not yet occurred, but it also appears in commands, complement clauses and verb compounding. Only examples of the uses of the Potential aspect expressing an event that has not occurred and expressing commands are presented in this section. Examples of the use of the Potential aspect in complement clauses and verb compounding are found in the corresponding sections of the grammar.

Examples 1) and 2) present the use of Potential for an event that has not occurred or will not occur:

1) ***koti7ya3ne73*** *tikinyan73 jinyan31ne73 cha731tilyo3 ti730*
P.light 3pl candle P.ask 3pl so that forgiveness
'They'll light a candle to ask for forgiveness'

2) a3 ***kote7en21*** *7in3 chon73 a3 ndika3 tin730*
NEG P.marry.1s DAT because NEG H.like.1s
'I will not marry him because I don't love him'

The following examples 3) and 4) illustrate the use of the Potential aspect to formulate commands. There is no structural difference between a Potential form expressing a future event and a Potential form expressing a command. It seems that context together with intonation (exclamation) are the only cues to distinguish between the two. The language may have other means to convey imperative mood that have not been encountered and/or analyzed as yet.

3) ***koto7o21*** *nde32*
P.leave.2s here
'leave this place!'

4) ***koto7o2*** *wan3 nde32*
P.leave 2pl here
'leave this place!'

3.1.1.1.2.2 Completive aspect

Verbs in the Completive aspect are used to express events that have been completed. In the corpus, there is a general tendency for the completive aspect to appear in personal narratives about an event that occurred in the past but not in mythical stories. For the latter, the Habitual aspect seems to be preferred. The two excerpts 5) and 6) below are issued from a text narrating the true story of a cow that gave birth to a calf with two heads:

5) ***ngasi7ya21ne73*** *7in3 naten3 non3 jl'o21ti73 cha7317in3na7ni3 ni3*
C.call 3pl DAT people REL H.know COMP DAT animal 3
'They called the people who know about animals"

6) ***ngata31 ne73*** *kwinta32 7in3 ne73 cha731a3 ngwatyi7in31 wata13*
C.give 3pl account DAT 3pl COMP NEG P.be-born cow
kwine72 kan72
youngster then
'then, they realized that the calf could not be born'

3.1.1.1.2.3 Habitual aspect

Verbs in the Habitual aspect express an event that keeps occurring as in a habitual pattern. This is the preferred aspect for mythical narratives. As in other languages such as English or French which use the simple present tense in similar genres, ZC uses the Habitual aspect to add

credibility and vivacity to the story being told. Below some excerpts (7 and 8) of a narrative about the tiger of the apostle San Marcos illustrate the use of the Habitual aspect:

7) xkotsen73 7in3ne73 sen73 ***nga7an21 ne73***
P.scare DAT 3pl where H.live 3pl
'he scares the people where they live'

8) ni732 kixin32 sen73 ***nga7an21 ne73, ndana7an31*** *sen73 ne73*
place countryside where H.live 3pl H.take-care where 3pl
na7ni3 7in3 ne73
animal DAT 3pl
'in the countryside where they live, where they take care of their animals'

3.1.1.1.2.4 Progressive aspect

Examples of real uses of the progressive aspect are difficult to find in texts because of the fact that the Habitual and Progressive aspects have some allomorphs in common. So far, the use of the progressive seems to express events in progress hence the designation 'progressive'. Examples 9) and 10) below are issued from an elicitation session:

9) ***ni3 cha731*** *ndona21*
IP COMP Pro.cry.2s
'Why are you crying?'

10) ***lo3 ya731*** *tza3*
IP Pro.go.2s
'Where are you going?'

3.1.1.2 Person marking on verbs

Person marking on verbs is realized through tone contrast or/and morphology. The second person singular is marked by tone contrast only whereas the first singular can involve both tone contrast and the first person singular nasalization feature as in *yako-**n30*** **'**I ate', yako**31** 'you ate' and *yako**3*** 'he/she ate'.

The first (incl.,and excl.), second and third persons plural are marked with agreement markers (*nan3, wa3, wan3* and *ne73*) following the verb and bear the same tone as the third person singular as in *yako**3 nan3*** ‘we ate’ or yako**3 ne73** ‘they ate’.

Table 9 presents a paradigm of agreement markers:

Table 9: *Subject agreement on verbs*

3	**2s**	**1s**	**1plin**	**1plex**	**2pl**	**3pl**
none (bare stem)	tone contrast	tone (+nasal feature)	bare stem + nan3	bare stem + wa2	bare stem + wan3	bare stem + ne73

The third person does not take any subject marking on the verb so it occurs in its bare form in the third person singular and also in all plural persons except that the latter forms show subject agreement through the use of pronominal agreement markers. The first person singular has two possible types of subject marking on the verb: the verb can show a tonal contrast alone if the verb root is already nasalized or both a tonal change and a nasalization of the root vowel. The selection of either processes seems to be encoded in the lexicon.

Table 10[5] lists all pronominal markers in ZC:

Table 10: *Pronominal markers*

Person	**Singular**	**Plural**
3 human	none	ne73 (optional)
3 animal	ni3	
3 inanimate	na31	
2	none	wan3

[5] This table is adapted from Rasch’s dissertation on Yaitepec Chatino

Person	Singular	Plural	
1	nasalization of the root vowel	nan3 (incl.)	wa3 (excl.), wi731 (family)

Subject agreement is done through tone contrast only for all second person singular and for some first person singular forms as shown in table 11:

Table 11: *Subject agreement on 1st, 2nd and 3rd person singular*

3s	**2s**	**1s**
yokwi73 kona3 'he/she will cry'	no7win3 kona31 'you will cry'	nan72 kona30 'I will cry'
yokwi73 kyanon21 'he/she will stay'	no7win3 kyanon2 'you will stay'	nan7 kyanon30 'I will stay'
yokwi73 kakwen3 'he/she will vomit'	no7win3 kakwen31 'you will vomit'	nan7 kakwen30 'I will vomit'
yokwi73 kata3 'he/she will bathe'	no7win3 kata31 'you will bathe'	nan7 katan30 'I will bathe'

As we can see from the data presented above, tones 31 and 2 are the preferred tones for marking second person singular, whereas tone 30 generally marks first person singular. The latter pattern is a general tendency and does not account for all cases. Still, there is some degree of predictability for person marking on verbs, particularly from the third to the second person singular. Tonal prediction from third or second person singular to first person singular is not as systematic as for the first case. For example, if a given verb in any aspect bears the tone 2 in the third person singular, it will have a tone 13 in the second person singular but can carry a tone 21, 3, 31 or 30 in the first person singular.

Table 12 below presents tonal patterns for person marking on verbs from third person to second and first person singular for each tone category:

Table 12: *Tonal patterns for person marking on verbs*

3rd	2nd	1st
2	13	irregular
3	31	majority 30
3+	31	majority 30
21	2	irregular
32	21	irregular
31	21	majority 30
30	2, 31	majority 3
13	13, 21, 31	irregular

Figure 18 shows verb inflection in ZC:

$V_{\underline{infl}} \rightarrow$ ASP + stem (+Pers)

Figure 18

3.1.2 Components of the Noun Phrase

This section presents the possible components of a noun phrase. The discussion starts with a presentation of nouns which is divided into two categories: pronouns and lexical nouns. The section on pronouns discusses independent pronouns and demonstrative adjectives and the one on lexical nouns deals with the opposition between inalienably and alienably possessed nouns. Then the discussion follows with the treatment of various noun phrase items such as the nominalizer *non3,* noun phrases functioning as third person pronouns, adjectives and finally numerals.

3.1.2.1 Independent pronouns

Independent pronouns are not gender specified and can occur sentence-initially or following the grammatical category they modify. All of the free pronouns in the table below can occur as subject pronouns, and only the second and third person singular pronouns can also occur as direct and indirect object pronouns. They also appear in alienable possessive constructions. For the other persons in the latter constructions, the corresponding pronominal markers are used (*nan3, wa2, wan3, ne73*, first person singular is *7nyan30,* a contraction of *7in3 + na72*).

Table 13 presents a paradigm of the independent pronouns of the language. The pronouns for the 1plin and 1plex are found in free variation depending on the speaker:

Table 13: *Independent pronouns of Zacatepec Chatino*

3	**2s**	**1s**	**1plin**	**1plex**	**2pl**	**3pl**
yokwi73	no7win3	na72	na3-nde32/ na3-re32	wa3-nde32/ wa3-re32	ngo7wan3	yokwi73 ne73

3.1.2.2 Demonstrative adjectives

Three demonstrative pronouns were found in the corpus of data. They always occur directly following the noun they modify. *kwa31* designates an entity far away spatially or not present during conversation whereas *nde32* refers to an entity close or present during exchange. *kan72* refers to an object or person previously mentioned and not present.

Table 14: *Demonstrative adjectives*

nde32	‘this’	ke32 nde32 ‘this flower’
kwa31	‘that’	ke32 kwa31 ‘that flower’
kan72	‘the previously mentioned’	ke32 kan72 ‘that previously mentioned flower’

3.1.2.3 Lexical nouns

In ZC, the set of lexical nouns presents an opposition between inalienably and alienably possessed nouns.

3.1.2.3.1 Inalienably possessed nouns

As in Yaitepec Chatino (Rasch 2002), the class of inalienably possessed nouns is mainly constituted by body parts and kinship terms . This type of possessive construction is marked by tone contrast only for all cases of second person singular and by tone changes combined with the feature of nasalization (*-n*) for the majority of first person singular; in some cases, nasalization does not occur. The plural forms bear the default third person tone and occur with their corresponding pronominal marker.

Furthermore, just as with person marking on verbs, tonal changes for the second and first person singular on nouns are often predictable from the third person tone. The same pattern found on verbs is also found on nouns. So, for example, if an inalienable noun bears a tone 2 in the third person singular, it probably has a tone 13 in the second person singular and a tone 3 in the first person singular. Even with as little data as there is in the corpus at this point, this phenomenon seems to reflect the tone predictability on inalienable nouns also present in San Juan Quiahije Chatino. For lack of examples, not all the tone categories are represented in the table below. Further data collection is needed to have a complete paradigm of person marking on inalienable nouns. Table 15 illustrates the patterns of tone changes for these two persons based on the tone for third person singular:

Table 15: *Person marking on inalienable nouns*

3sg	2sg	1sg	1plin	1plex	2pl	3pl
jnyake**2** 'his/her head'	jnyake**13** 'your head'	jnyaken**3** 'my head'	jnyake**2** nan3 'our head'	jnyake**2** wa3 'our head'	jnyake**2** wan3 'your head'	jnyake**2** ne73 'their head'
soti**3** 'his/her father'	soti**2** 'your father'	sotin**3** 'my father'	soti**3** nan3 'our father'	soti**3** wa3 'our father'	soti**3** wan3 'your father'	soti**3** ne73 'their father'
kiya7**3** 'his/her foot'	kiya7**2** 'your foot'	kiyan7**3** 'my foot'	kiya7**3** nan3 'our foot'	kiya7**3** wa3 'our foot'	kiya7**3** wan3 'your foot'	kiya7**3** ne73 'their foot'
jya7an**21** 'his/her mother'	jya7an**2** 'your mother'	jya7an**30** 'my mother'	jya7an**21** nan3 'our mother'	jya7an**21** wa3 'our mother'	jya7an**21** wan3 'your mother'	jya7an**21** ne73 'their mother'
sikon**32** 'his/her arm'	sikon**21** 'your arm'	sikon**30** 'my arm'	sikon**32** nan3 'our arm'	sikon**32** wa3 'our arm'	sikon**32** wan3 'your arm'	sikon**32** ne73 'their arm'

3.1.2.3.2 Alienably possessed nouns

In alienable possession, the possessor is separated from the possessed by the dative marker *7in3*, which is then followed by an independent pronoun for the singular forms or by a pronominal agreement marker for the plural forms. *7in3* plays a major role in ZC syntax as it not only marks possession, but as will be discussed later on in the grammar, it also introduces pronominal objects and human participant objects as well as indirect objects. *7in3* is analyzed as a dative marker referring to a generalized oblique case, i.e., non-subject. Typically, dative markers express indirect object relationships, or a range of meaning similar to that covered by the prepositions *to* and *for* in English. Typologically, it is not atypical to find a dative marker functioning as a possessive marker since the possessor can also be analyzed as a recipient.

Table 16 below presents a paradigm of possessive constructions introduced by *7in3*:

Table 16: *Possession on alienable nouns*

3s	nda3 7in3 yokwi73 'his/her beans'	ja7wa3+ 7in3 yokwi73 'his/her bananas'	ja72 7in3 yokwi73 'his/her mat'
2s	nda3 7in3 no7win3 'your beans'	ja7wa3+ 7in3 no7win3 'your bananas'	ja72 7in3 no7win3 'your mat'
1s	nda3 7in3 na72 'my beans'	ja7wa3+ 7in3 na72 'my bananas'	ja72 7in3 na72 'my mat'
1plin	nda3 7in3 nan3 'our beans'	ja7wa3+ 7in3 nan3 'our bananas'	ja72 7in3 nan3 'our mat'
1plex	nda3 7in3 wa3 'our beans'	ja7wa3+ 7in3 wa3 'our bananas'	ja72 7in3 wa3 'our mat'
2pl	nda3 7in3 wan3 'your beans'	ja7wa3+ 7in3 wan3 'your bananas'	ja72 7in3 wan3 'our mat'
3pl	nda3 7in3 ne73 'their beans'	ja7wa3+ 7in3 ne73 'their bananas'	ja72 7in3 ne73 'their mat'

For the first and second persons singular, possession on alienable nouns can also be realized through person marking directly on '7in3' as illustrated in table 17. Also, due to sandhi effects, the tone on *7in3* for the third person singular undergoes drastic changes: it sounds like a high tone when preceded by tones 3, 32, 31 and 21 and like a super high tone when preceded by a tone 30. Since the first and second person tones respectively 30 and 2, are stable tones, they do not undergo such changes:

Table 17: *Alienable possession - person marking on '7in3'*

3s	**2s**	**1s**
nda3 7in**3** 'his/her bean'	nda3 7in**2** 'your bean'	nda3 7nyan**30** 'my bean'
ke32 7in**3** 'his/her flower'	ke32 7in**2** 'your fower'	ke32 7nyan**30** 'my flower'
kita31 7in**3** 'his/her herb'	kita 317in**2** 'your herb'	kita31 7nyan**30** 'my herb'
l'i730 7in**3** 'his/her parrot'	l'i730 7in**2** 'your parrot'	l'i730 7nyan**30** 'my parrot'
kiko21 7in**3** 'his/her well'	kiko21 7in**2** 'your well'	kiko21 7nyan**30** 'my well'

Table 18 below summarizes the mechanisms of possessive constructions in ZC:

Table 18: *Inalienable and alienable possession*

Persons	Inalienable	Alienable
3s	N (no person marking)	N + 7in3 **or** N + 7in3 + yokwi73
2s	N + tone contrast	N + 7in2 **or** N + 7in3 + no7win3
1s	N + tone contrast + nasalization	N + 7nyan30 **or** N + 7in3 + na72
1plin	N (no person marking) + nan3	N + 7in3 + nan3
1plex	N (no person marking) + wa3	N + 7in3 + wa3
2pl	N (no person marking) + wan3	N + 7in3 + wan3
3pl	N (no person marking) + ne73	N + 7in3+ ne73

3.1.2.4 Nominalizer *non3*

Some adjectives (including demonstratives: *kwa31* see next section below) in the corpus have been found modified by the morpheme *non3*. In this context, the noun phrase containing *non3* should be glossed as 'the one who...'. Examples 11) and 13) present occurrences encountered in text of the morpheme *non3* functioning as a nominalizer:

11) *nde7in3 ska3 **non3** kona7an21 lo7o21 kwilyo7o3*
H.be/live one NOM female with husband
'a woman lives with her husband'

12) *nde7in3 ska3 sinye73 kona7an21*
H.be/live one offspring female
'she has a daughter'

13) *nyan3 ska3 **non3** ki7yo21 ngajinyan13 7in3*
H.come one NOM male C.ask her
'a man comes to ask for her (hand)'

In Examples 11) and 13), *non3* in front of the adjectives 'female' and 'male' functions as a nominalizer and is then glossed as 'the one who is female' and 'the one who is male'. On the

other hand,in example 12), the noun ‘offspring’ occurs before the adjective *kona7an21* ‘female’ so there is no need of the nominalizer *non3* to create a noun phrase.

The morpheme *non3* also functions as a relativizer in other contexts such as in subordination, but the latter is discussed at a later stage in this grammatical sketch in the section dedicated to relative clauses.

3.1.2.5 Third person pronoun noun phrases

The paradigm of independent pronouns in the language was presented at the beginning of this section on components of the noun phrase, but it is important to mention that Zacatepec Chatino has a set of noun phrases that are often found as subjects/objects. The use of the latter is actually preferred in discourse by ZC speakers over the use of the third person independent pronouns *yokwi73* ‘he/she’ and *yokwi73 ne73* ‘they’. These noun phrases contain much more information about the referent such as gender, number, age and even spatial location than the independent pronouns.

In some examples, the morpheme *non3* occurs in front of adjectives such as *kona7an21* ‘female’ and *lyo730* ‘childish’, included before the demonstratives *kwa31, nde32* and *kan72.* The demonstratives in parentheses following some of the noun phrases presented below are optional but each of them has been found modifying these noun phrases.

Table 19 presents examples of the most common noun phrases of such type found in the corpus:`

Table 19: *Common Subject/Object Noun phrases*

non3 kona7an21 (nde32/kwa31/kan72)	'she' (the/that one who is a female)
non3 lyo730 (nde32/kwa31/kan72)	'he/she' (the/that one who is childish/small)
non3 lyo730 ki7yo21 (nde32/kwa31/kan72)	'he' (the/that one who is a childish/small child)
non3 lyo730 kona7an21 (nde32/kwa31/kan72)	'she' (the /that one who is a childish/small female)
non3 kwa31/nde32/kan72	'he/she' (that/this one)
ne73 kwa31/nde32/kan72	'they' (those/these ones)
ne73 kola3 (nde32/kwa31/kan72)	'they' (these/those elders) (male/female)
ma30 xu730 (nde32/kwa31/kan72)	'she' (this/that female elder)
xu731 nde32/kwa31/kan72	'he' (this/that male elder)
na7ni3 nde32/kwa31/kan72	'it/they' (animals)
na31 nde32/kwa31/kan72	'it/they' (things)
wi731 nde32/kwa31/kan72	'they' (family members)

3.1.2.6 Numerals

The Chatino language number system, like the Mayan and the Aztec, is vigesimal so the number twenty serves as a base for forming numbers from thirty to one hundred. It also shows vestiges of an old number system based on five since the numbers from eleven to fourteen and from sixteen to nineteen are formed from the number ten or fifteen plus the numbers one through four. The numbers precede the noun they modify as shown in example 14) below:

14) *ska3 wata32 lo7o21* ***tokwa3*** *jnyake2*

one cow with two head
'a cow with two heads'

The following list presents the numbers from 1-20:

tzaka3	*one*	ti3 chaka2	*eleven*
tokwa3	*two*	ti3 tyokwa30	*twelve*
tzona3	*three*	ti3 chona30	*thirteen*
jakwa3	*four*	ti3 jlyakwa2	*fourteen*
ka7yo3	*five*	ti7nyon3	*fifteen*
sokwa3	*six*	ti7nyon3 chaka2	*sixteen*
kati3	*seven*	ti7nyon3 tyokwa30	*seventeen*
sonon73	*eight*	ti7nyon3 chona30	*eighteen*
ka3	*nine*	ti7nyon3 jlyakwa2	*nineteen*
ti3	*ten*	kala3+	*twenty*

ZC number system uses operations such as sums and multiplications to derive large numbers. For example, to form the number twenty-one, the verb 'to sit' is used to express a sum:

15) *kala3+ndokwa3 tzaka3*
twenty H.sit one
'twenty one'

For unknown reasons, from numbers seventy till one hundred, the verb expressing sum changes to ndzo7wi3 'to have/exist' as shown in example 16:

16) *jakwa3+yala3 ndzo7wi3 tzaka3*
four twenty H.have one
'eighty one'

The list below presents the numbers for all the tens, from twenty to one hundred:

kala3+ ti3	thirty	tzona3 yala3 ndzo7wi3 ti3	*seventy*
to7wa3	forty	jakwa3 yala3	*eighty*
to7wa3 ti3	fifty	jakwa3 yala3 ndzo7wi3 ti3	*ninety*
tzona3 yala3	sixty	tzaka3 syento32	*one hundred*

The numbers for one hundred and one thousand are lexical adoptions from Spanish:

ZC	Spanish	English
syento32	*ciento*	*one hundred*
mil3	*mil*	*one thousand*

3.1.2.7 Attributive adjectives

At this point in my research on ZC, the study of adjectives is still very superficial. Adjectives appear to have properties in common with nouns and verbs. The creation of syntactic tests is needed to be able to distinguish them from the two other categories. Below, some examples of noun modifiers that have been so far classified as adjectives are presented and discussed:

17) *li7ya13 ne73 liston32* ***xen2*** *ni3*
H.bring 3pl leash large 3
'They bring a large leash'

18) *ko731* ***kwine72*** *lo7o21 ko731* ***kola3***
moon young with moon old
'new moon and old moon'

As shown in examples 17) and 18), adjectives are always found occurring after the noun they modify. This distributional pattern does not differentiate them from nouns or verbs that can also be encountered in this position. For example, in the noun phrase *ne73 kola3* meaning 'parents/elders' the noun modifier *kola3* follows the noun *ne73* 'person'. A verb can also precede or follow its subject:

19) ***tinyan21*** *na31 nda3 re32*
H.be-spicy thing beans this
'These beans are spicy'

20) *nda3 re32* ***tinyan21*** *na31*
beans this H.be-spicy thing
'These beans are spicy'

In examples 19) and 20) there is no morphological clue that would clarify whether the translation should be: 'These beans are spicy' where 'spicy' is an adjective or 'These beans are spicy' where 'are spicy' is a verb. Morphologically, some verbs have a zero morpheme for the Habitual aspect and *tinyan21* may be one of those. However, in section 3.1.5.2 about predicate adjectives, the adjective directly follows the noun; so the syntax may be the only way to differentiate between verbs and adjectives. Unfortunately, there is no data proving that the order could not be reversed. For some adjectives, morphological similarities between adjectives and verbs are more obvious and that could lead us to think that adjectives may be a subclass of verbs. Many adjectives' consonantal onsets resemble the aspectual morphemes *nga-* and *ndi-* respectively for Completive and Habitual aspects as in *ngata2* 'green'*, ngatzi31* 'yellow' and *ndi7ya3* 'beautiful'.

Also, both verbs and adjectives are encountered followed by the emphatic particle *7a21*:

21) *tinyan21* ***7a21*** *nan31*
H.be-spicy EMPH thing
'they are very spicy'

22) *tilya73* ***7a21***
cold EMPH
'very cold'

Because of these similarities, more research on both adjectives and verbs is needed to be able to specify their respective characteristics and distributional patterns.

3.1.2.8 Compound nouns

Two patterns of noun-headed compounds were encountered in the corpus: noun + noun and noun + adjective. The phonological processes occurring within the compounds are similar to the ones at the phrase level, so the sandhi rules apply to word compounds as well. In these compound constructions, the noun modifier occurs after the head noun and can be another noun, an inalienable noun or an adjective.

The following two subsections present examples of the two types of compounds found in the corpus.

3.1.2.8.1 Noun + noun compound words

Some of the noun + noun compounds are possessive constructions where both nouns are inalienably possessed as in: *yani2 ya732* 'wrist'. Others are possessive constructions where only the modifier i.e, the noun occurring in the second position is inalienably possessed as in *te73 kichan72* 'blanket' and others still are just composed of two juxtaposed nouns.

cha731 xa7an13	word/problem bad 'dispute'
ne73 pi20	person turkey 'foreigner'
ne73 chijya3	person mexico 'Mexican'
ne73 cha731 tinyan2	person word chatino 'Chatino'
ti7a3 skowe2	water egg 'egg white'
yani2 ya732	its.neck its.hand 'wrist'
kwina721 to7wa3	meat its mouth 'lips'
ti7a3 sane731	water ? 'saliva'
ni7an21 ki73	inside of house fire 'kitchen'
ke2 na7an3	its.head house 'roof'
te73 kichan72	fabric its.hair 'blanket'
na7an3 xkwila32	house school 'school'
na7an kikwan3	house metal 'prison'
kyo3 ke3	rain stone 'hail'

A few nouns sharing similar characteristics have been found preceded by the specific morphemes: *la3* and *to3*. The meaning of the first one is unknown whereas *to3* means 'hole/ cavity'.

Examples of those nouns encountered in the corpus are presented below:

Compound words referring to small animal nouns occurring with *la3* as a head noun:

la3 kon3	'dove'
la3 kwi7ya3	'eagle'
la3 kwichi31	'rabbit'

Compound words referring to entities being cavities occurring with *to3* as a head noun:

to3 yo3	hole soil 'hole in the ground'
to3 sinye73	hole nose 'nostril'
to3 yani2	hole neck 'throat'
to3 kwijin2	hole bag 'pocket'

3.1.2.8.2 Noun + adjective compound words

These compound words do not differ syntactically or phonologically from a noun + adjective noun phrase, but because of their idiomatic meaning as a whole, they are analyzed as compound words:

ke3 stilya32	stone Castilla 'bread'
ne73 kola3	person old 'elder/parents'
kwijin2 tikwin3	bag long 'shoulder bag'

Now that all basic components of the noun phrase have been treated, the tables below present the morphological rules for nouns and the noun phrase structure rule:

Figure 19 shows the morphological rules for nouns in ZC:

$$N_{\underline{infl}} \rightarrow N_{\underline{stem}} + Pers$$

$N \rightarrow N_{\underline{stem}} + N_{\underline{stem}}$
$N \rightarrow N_{\underline{infl}} + N_{\underline{infl}}$
$N \rightarrow N_{\underline{infl}} + N_{\underline{stem}}$
$N \rightarrow N_{\underline{stem}} + N_{\underline{infl}}$
$N \rightarrow N + Adj$
Figure 19

Figure 20 shows the noun phrase rules in ZC:

$NP \rightarrow (N)\ N\ (ADJ)\ (DEM)$
Figure 20

3.1.3 Expressions of Subject + Verb

This section discusses the different simple verbal constructions existing in ZC. VS (O) is the least marked or the most frequently encountered pattern in discourse for simple sentences, but it is not the only possible order. The other order encountered in the corpus so far is SV (O). So, the position immediately following the verb is generally occupied by the subject which can take the form of an agreement marker, an independent pronoun, a lexical noun or a noun phrase.

The order of presentation is based on the principle mentioned in the introduction, which consists in evolving from the most common to the least common construction. As a result, the subsections below deal with verbal constructions introduced in the following order: Verb [Agr], Verb + Subject NP, Verb + Pronoun and finally Subject NP + Verb.

3.1.3.1 Verb [PERS]

This section recapitulates the discussion on person marking on verbs in section 3.1.1.2.

In the first and second person singular, the subject can be marked directly on the verb. For the first person singular, it is marked with the first person singular nasal feature and a tone

replacement (tone change from third person) as seen in example 22). For the second person singular, it is marked by tone replacement only as in example 23), and finally, the third person is not marked at all so the verb carries its default tone as in example 24):

22) yako**n30**
C.eat.1s
'I ate'

23) *yako**31***
C.eat.2s
'you ate'

24) *yako3*
C.eat.
'he/she ate'

For the plural persons, the subject is marked following the verb with pronominal agreement markers as in example 25):

25) *yako3**nan3***
C.eat 1plin
'we ate'

3.1.3.2 Verb + NP subject

The other unmarked verbal construction contains an overt NP subject directly following the verb. The NP can be a single lexical noun as in example 26) or a noun phrase as in example 27):

26) ***ndokwa3 kinyi2*** *ke2 na7an3*
Pro.sit bird head house
'A bird sits on top of the house'

27) ***nde7in3 ska3 non3 kona7an21*** *lo7o21 kwilyo7o3*
H.be/live a NOM female with husband
'a woman lives with her husband'

3.1.3.4 Verb + Pronoun

This type of verbal construction seems to be less commonly found than one consisting of a verb (PERS). ZC speakers use independent pronouns in elicitation when translating Spanish sentences with overt pronouns suggesting that their use may signal emphasis on the subject, as is the case in Spanish. Example 28) was elicited and is the direct translation of the Spanish sentence: *él comió* 'he ate' where the pronoun *él* is emphatic.

28) ***yako3*** *yokwi73*
C.eat he/she
'He/she ate'

Also, an important phenomenon in this type of construction is that when the personal pronoun is placed after the verb, the latter does not get inflected for person. For example, the verb 'to eat' conjugated in the second person singular is *yako31* and in the sentence 'you ate', *yako3 no7win3*, the verb carries the third person default tone.

3.1.3.5 NP + Verb

This simple sentence construction is the least commonly found in natural discourse. ZC speakers accept it as a grammatically sound construction but it is mainly a tool for checking inflections in verb paradigms, for example. Since this word order is rare, but still accepted by ZC speakers as a valid grammatical construction, sentence initial NPs must have a specific function in the language. It seems reasonable to analyze NPs found in that position as topics and not as subjects. Various instances of independent pronoun + verb are found in verb paradigms as presented in examples 29) and 30). All of them are translations of Spanish sentences containing a

sentence initial independent pronoun. Some examples of sentence initial NPs consisting of a proper name are also encountered in diverse elicitation sessions as shown in examples 31):

29) ***no7win3****ngyola21*
you Pro.dance.2s
'You, you dance'

30) ***yokwi73*** *ngyola31*
he/she Pro.dance
'Him/her, he/she danced'

31) ***Maria32****ngya3*
Maria32 C.leave
'Maria, she left'

3.1.4 Simple sentences with complements

3.1.4.1 Direct object

The function of the participants in an event is indicated by word order and by grammatical marking. As it was illustrated in the preceding section, in a simple VS sentence without a complement, the position after the verb is filled by the subject. A direct object can occur in the second or third position following the verb depending on its grammatical category and its human characteristics. If the object is pronominal or if the object participant is human, it is separated from the verb by the marker *7in3.* On the other hand, non-human objects are unmarked and can occur directly following the verb if there is no overt NP subject as in example 32), or directly after the subject agreement marker as in example 33) or following the NP subject as in example 34):

32) *Yakon30* ***ja7wa3+***
C.eat.1s banana
'I ate a banana'

33) *Yako3 nan3* ***ja7wa3+***
C.eat 1plin banana
'We ate a banana'

34) *Na7an2 Xowa3* ***xoni732***
C.see John dog
'John saw a dog'

Human objects and pronominal objects (human or not) are marked by *7in3* as illustrated in the examples below. In 35) and 36), the objects are persons but in 37), the object is an animal (a tiger) but since it is pronominal, it still take the marker *7in3*:

35) *Na7an2 Xowa3* ***7in3 Maria32***
C.see John DAT Mary
'John saw Mary'

36) *Na7an13* ***7nyan30***
C.see.2s DAT.1s
'You saw me'

37) *Ndzo7wi3 ne73 kola3 non3 nda30 cha731* ***7in3 ni3***
H.have/exist 3pl old REL H.give word DAT 3 (the tiger)
'There are some elders who talk about it'

3.1.4.2 Indirect object

Like human direct objects, beneficiaries are marked by the marker *7in3*. Consequently, when a human or pronominal direct object and a beneficiary are both present in a clause, they are distinguished only by word order (direct object + beneficiary).

38) *ngayojwi73 Victor32 kwina721* ***7in3 Jose32***

C.sell Victor meat DAT Jose
'Victor sold meat to Jose'

39) *Xowa32 ngayojwi73* ***7in3*** ***sinye73*** ***7in3*** ***ne73*** ***kwa31***
Juan C.sell DAT offspring DAT 3pl those
'Juan sold his son to those people'

In example 38), the direct object is not marked because it is non human and non pronominal but the beneficiary is marked by the marker *7in3*. In example 39), both a human direct object and a beneficiary are present in the sentence and both are marked by *7in3* so their position distinguishes their function: the direct object participant must precede the beneficiary.

3.1.4.3 Locational complements

3.1.4.3.1 Locational nouns

When ZC speakers want to refer to the place itself and not to the spatial location relative to the object, the lexical noun *ni732* which also means intestines is used, but in this context it means *place*:

40) ***ni732*** *lyo7o31* *7in3* *ne73*
place inside.corral DAT 3pl
'inside their corral'

In example 40), the word for *'*corral*'* *lo7o31* has gone through a derivational process (laminalization of the *l-* section 3.1.4.3.3) leading to the meaning 'the interior of the corral'. It is also preceded by the noun *ni732*, which in this case functions as a locational meaning 'place'.

Besides the noun *ni732*, which was observed to function as a locational, other types of nouns such as names of places and *se7en3* (another word for 'place') can have the same function.

For example, the word for ‘Zacatepec’ *tzi3* does not need to be modified by the unmarked locative *se7en3* ‘place’ because it inherently expresses location:

41) *nde7in30* ***tzi3***
H.live.1s Zacatepec
‘I live in Zacatepec’

Example 41) also shows that in ZC, place names or locational phrases do not have to occur with a locational marker. As was illustrated in example 40), if the speaker wants to refer specifically to the inside of a jar *kika721*, the relational noun *ni732* is used as in *ni732 kika721* ‘inside the jar’, but if he just wants to refer to the location ‘in the jar’ then the noun occurs by itself as in *kika721* ‘in the jar’.

The word *se7en3* ‘place’ is frequently found as an unmarked noun of place as in the following examples:

42) *tza7an31 ska3* ***se7en3***
P.go.1s a place
‘I am going somewhere’

43) *ngyanan2 kwiji2 7nyan30 ya731* ***se7en3*** *ti3*
C.look-for.1s bag DAT.1s all place just
‘I looked for my bag everywhere’

3.1.4.3.2 Relational nouns

In ZC, as in many other Mesoamerican languages, spatial location relative to the object is expressed through inalienably possessed constructions. As a result, locative complements present the same syntactic structure as noun phrases. Relational nouns are inalienable nouns so they take person marking. They occur before the possessor and act as heads of the locative phrase.

Relational nouns mainly derive from terms for body parts**,** and since they function as spatial referents, they are labelled relational nouns.

The following examples illustrate the use of relational nouns to express spatial location:

44) *kitan21 kwa31 nde32* ***tichon713*** *ndikwi2 nan3*
hammock that here back.2s H.hang 3
'That hammock is hanging behind you'

45) *ndzo7wi3 ti7a3* ***ni732*** *kika721 re32*
H.exist water abdomen jar this
'There is water inside this jar'

Table 20 below presents the most common relational nouns found in the corpus of data:

Table 20: *Relational nouns*

Noun	**literal meaning**	**spatial reference**
laja3	space in between things	between
ni732	lower abdomen	inside
kiya73	foot	below, at the foot of
ke2	head	above
lo3	surface	on, on top of
si73	side	next to, beside
tichon713	back	behind, outside, after
talo21	face	in front of
to7wa4	mouth	the edge of

3.1.4.3.3 Laminalization process:'interior of'

ZC also utilizes a morphological process occurring on lexical nouns to make reference to the place corresponding to the interior of an entity. Certain nouns referring to buildings or

structures or even dense matter such as soil have been found to undergo laminalization of their initial consonant to designate the 'interior' of the referent undergoing the derivation.

Table 21 below presents the nouns found in the corpus that underwent this derivational process:

Table 21: *Laminalization: interior of*

lo7o31	corral	lyo7o31	inside the corral
la2	church	lya2	inside the church
yo3	soil/ground	lyo13	in the ground

One of the derived forms *lyo13* also undergoes a tonal change from tone 3 to tone 13. This is probably the result of a sandhi process.

3.1.4.4 Adverbs

Adverbs can occur before or after the verb they modify and can also be separated from the verb by the emphatic particle *7a21*:

46) ***lika3 sa3*** *7a21 ndya7an3*
fast ? EMPH H.walk
'he/she walks very fast'

47) ***tiya73*** *7a21 ndya7an3*
slow EMPH H.walk
'he/she walks very slow'

48) *ndya7an3* ***tiya73*** *7a21*
H.walk slow EMPH
'he/she walks very slow'

It is possible that the words *lika3 sa3* ‘fast’ and *tiya73* ‘slow’ can also modify nouns, but I do not have any data that shows it. However, the word *tza7we31* ‘good’ can occur with nouns as well as verbs as presented in examples 49) and 50):

49) *non3 ki7yo21* ***tza7we31***
non3 ki7yo21 tza7we31
NOM male good
‘a good man’

50) *yajan721* ***tza7we31***
C.sleep.1s good
‘I slept well’

In example 50), the word *tza7we31* occurs after the verb and I am assuming that the word order could be reversed without affecting grammaticality, and the emphatic marker *7a21* could modify the adverb as in *tza7we31 7a21 yajan721* ‘I slept well’. Yet, in the noun phrase presented in example 49), *tza7we31* occurs after the noun and I do not think that it could occur in front of the noun. If this speculation is right then one could conclude that *tza7we31* functions as an adjective when it occurs after nouns and as a adverb when it modifies verbs.

3.1.5 Non-verbal predicates in Habitual aspect

At this stage of the documentation of ZC, there is no data for a full aspectual paradigm for non verbal predicates, as a result this section only deals with non-verbal predicates in the Habitual aspect. Predicate adjectives are the only construction in this section where a copular verb such as laka3 ‘he/she is’, nde7in3 ‘he/she live/exists’ or ndzokwa3 ‘he/she sits’, does not occur and where the subject and the adjective are juxtaposed. If there is no overt NP subject, the adjective takes person marking.

3.1.5.1 Predicate nominals

The verb *laka3* 'he/she is' functions as a copular verb. It relates an entity to a characteristic. Just as all other verbs, it carries aspectual and person marking and generally occurs in the unmarked or most commonly found verbal position, i.e, clause initially (Example 51) but it can also follow the subject (Example 52):

51) ***lakan30*** *mastro32*
H.be.1s teacher
'I am a teacher'

52) *sko7we31* ***laka3*** *ska3 kichen3 tilyo31 7a21 nan3*
Juquila H.be one village big EMPH thing
'Juquila is a big village'

3.1.5.2 Predicate adjectives

In predicate adjectives, the subject and the adjective are juxtaposed. If there is no overt NP subject, the adjective takes person marking, and if an NP subject is present, the subject directly precedes the adjective.

3.1.5.2.1 Predicate + [PERS]

Predicative adjectives can take person marking in the form of pronominal clitic (nasalization) and tone contrast as shown in example 53) or in the form of pronominal agreement marker as in example 54) to function as predicates:

53) *tilyon31*
fat.1s
'I am fat'

54) *tilyo3 nan3*
fat 1plin
'we are fat'

3.1.5.2.2 Predicate + Subject NP

In predicate adjectives including a noun phrase subject, the adjective occurs directly following it as shown in examples 55), 56) and 57):

55) *Gael* ***tikwin3***
Gael long/tall
'Gael is tall'

56) *Ngo7wan3* ***tikwin3*** *wan3*
You all long/tall 2pl
'You are tall'

57) *Ki7nyan2* ***loko7wi3***
bed narrow
'The bed is narrow'

3.1.5.3 Possessive predicates

As is the case for all the other non-verbal constructions presented in this work, the corpus presents too little data for possessive constructions to be able to offer an adequate analysis. The

same verb as in the preceding clauses discussed occurs ‘to live/exist’. Examples 58) and 59) below present sentences that were translated as having a possessive meaning:

58) ***nde7in3*** *tokwa3 ta7a2*
H.exist/live two brother
‘he has two brothers’

59) ***nd’ya3*** *xoni732 7nyan30*
Pro.exist/live dog DAT.1s
‘I have dogs’

3.1.5.4 Locational predicates

Locational predicates use stative verbs such as *nde7in3* ‘he/she exists’, *ndzokwa3* ‘he/she sits’ as copulas. As in predicate nominals, those copular verbs occur in the preferred order, i.e., sentence initially, and carry aspect and person marking (if conjugated in other person than third person since it is not marked):

60) ***Nde7in3*** *soti2*
H.live/exist father.2s
‘Your father is here’

61) *Nde32* ***ndzokwa3*** *kwijin2 7nyan30*
here H.sit bag DAT.1s
‘My bag is here’

3.1.5.5 Existential predicates

So far, ZC does not seem to have a specific existential particle. The same type of copular verb is used as in the locational predicates and possessive clauses. Examples 62), 63) and 64) were translated by the native speaker as conveying existential meaning but more data is needed to find out if these types of clauses are really existentials or not.

62) *Nde7in3 la21 kyaja3*
H.live/exist more tortilla
'There are more tortillas'

63) *ndzo7wi3 ne73 kola3 non3 nda30 cha7317in3ni3*
H.have person old REL H.give word DAT 3
'there are old people who talk about it'

64) *Nd'ya3 ska3 na31 ndzo7wi3 lo3 yaka3*
Pro.live/exist one thing H.have on tree
'There is a thing in the tree'

3.1.6 Negation and interrogation

3.1.6.1 Negation

The negative morpheme *a3* always precedes the predicate it negates but its position in the sentence is not restricted. It can be found sentence-initially or -medially. It can negate a verbal predicate as shown in examples 65), 67) and 68) or a non verbal predicate as in example 66).

65) ***a3*** *lakan30 naten3 ndolo7o3*
NEG H.be.1s people H.know
'I am not a teacher'

66) ***a3*** *tilyon30*
NEG fat.1s
'I am not fat'

67) ***a3*** *nde7in3*
NEG H.live/exist
'He is not here'

68) *kwa31* ***a3*** *ki7ya3 7a21 kyo3*
already NEG P.fall EMPH rain
'Already, It will not rain a lot'

3.1.6.2 Interrogative constructions

3.1.6.2.1 Polar interrogatives

Polar interrogatives are distinguished from declarative sentences only by an intonation pattern which consists of a rising contour on the last syllable. The corpus does not contain many examples of interrogative constructions so I am not able to say whether there is a restriction of NP positions in polar interrogatives. All examples exhibit a verb initial word order which is the preferred word order in the language as shown in example 69):

69) *nde7in3 ti7a3 7in2*
H.exist/live water DAT.2s
'Do you have water?'

3.1.6.2.2 Content interrogatives

Interrogative pronouns always appear clause initially and consist of an interrogative particle such as *7i3, ti3* or *ni3* plus a noun whose meaning is not always clear: *7i3 na31*: what thing 'what', l*o3 ya731: ?* 'where', *ti3 ka3*: ? 'who', *tzakwa3 ti3*: ? 'how many', *a3 non3*: which one: 'which' , *ni3 tzan2*: what day 'when', *ni3 cha731* 'why'

70) ***7i3 na31*** *laka3 nan3?*
IP thing H.be 3
'What is it?'

71) ***7i3 na31*** *ngyo7ni13?*
IP thing Pro.do.2s
'What are you doing?'

72) ***lo3 ya731*** *tza3?*
IP Pro.go.2s
'Where are you going?'

73) ***ti3 ka3*** *laka3?*
IP H.be

'Who is he?'

74) ***tzakwa3 ti3*** *ndika3 ti730?*
IP H.want.2s
'How many do you want?'

75) ***a3 non3*** *ndiya3 ti730?*
IP NOM H.like.2s
'Which one do you like?'

76) ***ni3 tzan2*** *kya13?*
IP day P.go.2s
'When do you leave?'

77) ***ni3 cha731*** *ndona21?*
IP COMP Pro.cry.2s
'Why are you crying?'

3.1.7 Derivation of verbs

Verb compounding in ZC is used to express causation and also to create verbal expressions. Causation can be expressed through verbs formed with the bound morpheme *-xi* and also through verb compounding involving the verb *7ni* 'to do'. The subsections below present and discuss examples of these two causative patterns and of other verb compounding processes.

3.1.7.1 Causative morpheme *x-*

The following examples illustrate the form and function of the verbal prefix *x-*. For each pair, the example a) contains the causative morpheme and example b) shows the corresponding non-causative verb:

78a) *Xowa32 ngwi**x**kona3 7in3 non3 kona7an21 lyo730 re32.*
John C-CAUS-P.cry DAT NOM female small this
'John made this little girl cry'

78b) ***yona31*** *non3 lyo730 re32*
C.cry NOM small this
'This child cried'

79a)*ngwi**x**tilyo21* *non3 lowe2 re32 na7an3*
C-CAUS-P.falldown NOM childish this house
'The kids knocked down this house'

79b) ***ngotilyo21*** *na7an3 nde32*
C.falldown house this
'This house fell down'

In both examples showing the causative morpheme (78a and 79a), the verb takes two aspectual markers: first the Completive and then the Potential marker. The structure of a causative verb is the following:

ASP + CAUS + P ASP + Verbal root (+ PERS)
Figure 21

3.1.7.2 Causative construction with the verb *ko7ni3* 'to do'

Causation can also be expressed through verbal expressions composed of two verbal roots, one of which involves the verb *ko7ni3* 'he/she will do'. In this case, the structure of the verbal expression is the following:

[ASP + -*7ni* + (PERS)] [P.ASP + Verbal root + (PERS)]
Figure 22

The first verb can be inflected by any aspect whereas the second verbal root is always marked by a Potential aspect marker:

80) *nga7ni2* ***k**yaka32*
C.do P.cure
'he/she cured'

The verb -*7ni* ‘to do’ can also occur with the causative morpheme -*xi* leading to the following meanings: ‘to make someone do something’ or ‘ to oblige someone to do something. In this case, the causative verb -*7ni* has the same structure as illustrated in *figure 21* in the section above:

81) *jya7an21* ***ndixko7ni13*** *7in3* *cha731* *tza13* *la3* *kwiyo730*
mother H-CAUS-P.do DAT COMP P.go Puebla
‘His mother obliges him to go to Puebla’

3.1.7.3 Compound verbs

Some verbs make use of two roots to convey one meaning. These verbal expressions are composed of a verb + a noun:

82) *a3* *taka2* *7nyan30* ***koskwan3ti7an30***
NEG ability DAT.1s P.lie.1s water.1s
‘I can’t swim’

83) ***ko7ni30 tiken3***
P.do.1s heat.1s
‘I’ll warm up’

In the verbal expressions above, both the verb and the noun get inflected for person. The verb bears the first person singular tonal clitic and the noun occurs with the first person singular nasal feature. Unfortunately, the corpus does not contain any examples in plural to verify if a clitic doubling would occur: one clitic for the verb and one for the noun.

84) ***ngaxta30*** ***yawe730*** *7in3* *sinye73*
C-CAUS-P.give evil DAT offspring
‘she cursed her daughter’

85) ***ko7ni3 lyo730***
P.do small
‘He/she will reduce (make smaller)’

In example 84) neither the verb nor the noun gets inflected for person since it is in the default third person singular.

$$V \rightarrow V_{\underline{stem/infl}} + N_{\underline{stem/infl}}$$
$$V \rightarrow V_{\underline{stem/infl}} + ADJ$$

3.2 Complex sentences

3.2.1 Relative clauses

The morpheme *non3* was discussed earlier in the grammar and was analyzed as a nominalizer when found preceding adjectives as in *non3 kona7an21* ‘ the one who is female’ or *non3 ki7yo21* ‘the one who is male’. When *non3* occurs preceding a V (S) (O) clause and acts as a link with the preceding clause with which it shares a participant, it functions as a relativizer and the whole can be translated into English as a relative clause. The examples below show that various relations in Zacatepec Chatino can be relativized. In example 85) the subject of the main clause San3 Marco32 is the coreferencial noun in the relative clause:

85) *jo7o32 xo7na21 ne73 laka3 San3 Marco32* ***non3*** *ngata7an31lo7o21 sti3*
saint patron people H.be Saint Mark REL C.go with father
nan3 Christo32
1plin Christ
‘The people’ saint patron is Saint Mark who went by our Father Christ’ side’

An object can also be relativized as shown in example 86) where the direct object of the main clause *naten3* is the coreferencial noun in the relative clause:

86) *ngasi7ya21 ne73 7in3 naten3* ***non3*** *jl’o21ti73 cha7317in3na7ni3 ni3*
C.call 3pl DAT people REL H.know COMP DAT animal 3
‘They called the people who know about animals”

In example 87), the agent *ne73 kola3* is the coreferencial expression in the relative clause:

87) *ndzo7wi3 ne73 kola3* ***non3*** *nda31 cha7317in3ni3*
H.have people old REL H.give word DAT 3
'There are some elders who talk about it'

3.2.2 Complement clauses

In ZC the morpheme that introduces a clause that is an argument of a verb belonging to another clause is the lexical item *cha731* meaning 'word, thing'. Examples 88) - 90) below, present *cha731* in its most frequent occurrence, i.e., when the complement clause is the direct object of the verb in the main clause:

88) *a3 tan3 cha731 kwiya713* ***cha731 tyo7o13 tila3+***
NEG H.give.1s word permit COMP P.go out night
'I don't allow him to go out at night'

89) *ngata31 ne73 kwinta32 7in3ne73* ***cha731 a3 ngwatyi7in31 wata3+***
C.give 3pl account DAT 3pl COMP NEG P.be-born cow
kwine72 kan72
youngster then
'then, they realized that the calf could not be born'

Example 88) and 89) show that there are no syntactic restrictions on the complement clause based on the main clause, i.e., person and aspect can differ. However, the complement clause seems to be restricted to Potential aspect except that the meaning of the verb in that clause is not the expected unaccomplished action or potential action.

90) *ndika3 tin730* ***(cha731) tza7an2***
H.want.1s COMP P.go.1s
'I want to go'

91) *ndya3 tin730 ti7in13 mixtyon30 7nyan30*
H.like.1s P.own.1s cat DAT.1s
'I like having a cat'

Examples 90) and 91) show that when both the main clause and the complement clause have the same subject, the latter is not syntactically reduced. The subjects are coreferential, but

the subject in the complement clause is not elided. Also, the fact that both examples have their verb in the complement clause in the Potential aspect is not the result of a syntactic restriction, but the response to elicitations of sentences in Spanish containing infinitive constructions.

92) *nde7in3* ***cha731*** ***katan****30*
H.live/exist COMP P.bathe.1s
'I have to bathe'

Example 92) presents *cha731* in a rarer usage, i.e., introducing a complement clause in the subject position. In this case, since the nasal stop at the end of the verb *nde7in3* is part of the root, it makes it difficult to know whether this verb is marked for the first person singular or is in the third person. But because this verb occurs frequently in existential constructions, it is probably unmarked and therefore in the third person.

Also, because the corpus does not include any systematic syntactic tests to check whether the complementizer *cha731* is compulsory or optional, I am not able to answer this question at this point. It was analyzed as optional in other varieties such as Yaitepec (Rasch 2002) and Quiahije (Cruz E., Cruz H., Cruz R. and Smith T. 2008) depending on the verb. For example, the complementizer is optional with the verb *to like,* just as it seems to be the case in Zacatepec Chatino (Example 91)).

3.2.3 Adverbial clauses

This section deals with dependent clauses that communicate cause, reason, purposive and locative information. The subordinating conjunctions that link those clauses also occur as lexical nouns or are derived from a noun.

3.2.3.1 *cha731 'so that / why'*

The morpheme *cha731* as a lexical item means 'word', but it can also function as a complementizer (previous section) and as a subordinator in dependent clauses indicating reason or purpose. In reason clauses it is preceded by the interrogative morpheme *ni3* 'what' as in *ni3 cha731* 'what reason' and is glossed as 'why'. In purposive clauses, the conjunction is *cha731* alone and is glossed as 'so that'. Examples of reason and purposive clauses are illustrated in examples 93) and 94):

93) *nyikwi3 ne73* ***ni3 cha731*** *ngyaka3 7in3 ne73 jikwa31 nya7an13*
P.speak 3pl why H.happen DAT 3pl this ?
'They'll say (who knows) why this happens to them'

94) *koti7ya3 ne73 tikinyan73 jinyan31 ne73* ***cha731*** *tilyo32 ti730*
P.light 3pl candle P.ask 3pl so that forgiveness
'They'll light a candle to (so that they) ask for forgiveness'

3.2.3.2 *chon73 'because'*

As a lexical item, *chon73/tichon73* means 'back', but when it is found introducing cause subordinate clauses it is glossed as 'because'. Example 95) illustrates *chon73* as a conjunction of subordination:

95) *a3 kote7en21 7in3* ***chon73*** *a3 ndika3 tin730*
NEG P.marry.1s DAT because NEG H.like.1s
'I will not marry him because I don't love him'

3.2.3.3 *sen73 'where'*

This conjuction is probably derived from the lexical item *se7en3* meaning 'place'. *Sen73* links two dependent clauses, one of which expresses the place where the event occurs:

96) *xkotsen73 7in3ne73* ***sen73*** *nga7an21 ne73*
P.scare DAT 3pl where H.live 3pl
'he scares the people where they live'

97) *ni732 kixin32* ***sen73*** *nga7an21 ne73, ndana7an31* ***sen73*** *ne73 na7ni3 7in3 ne73*
place countryside where H.live 3pl H.take-care where 3pl animal DAT 3pl
'in the countryside where they live, where they take care of their animals'

Conclusion

The description of Zacatepec Chatino is still in its early stage and there is much work left to be done in order to describe it accurately and to capture its complexity and ingenuity. The analyses presented here are preliminary and may be revised along the description process.

This grammatical sketch will serve as the base for the elaboration of a pedagogical grammar destined to community use as the members of San Marcos Zacatepec have shown interest in teaching the language to younger generations.

Works cited

- Boas, Franz. 1913. Notes on the Chatino languages of Mexico. American Anthropologist, New Series, Vol. 15, No 1 pp.78-86

-Campbell, Eric. 2009. Zenzontepec Chatino verb classification and aspect morphology. University of Texas at Austin. ms

-Carleton, Troi and rachelle Waskler. 2000. Pronominal markers in Zenzontepec Chatino. International Journal of American Linguistics, Vol.66, No.3., pp.383-397.

-Cruz, Hilaria and Anthony C.Woodbury. 2006. La fonología y la tonología comparativas del chatino: un informe del trabajo de campo en Zacatepec. In *Las Memorias del Congreso de Idiomas Indígenas de Latinoamérica-II*. Archive of the Indigenous Languages of Latin America, www.ailla.utexas.org/site/cilla2_toc.html

-Gordon, Raymond G., Jr. (ed.). 2005. Ethnologue: Languages of the World, Fifteen edition. Dallas, Tex.: SIL International. Online Version: http://www.ethnologue.com/.

-Greenberg, James B. 1981. *Santiago's sword : Chatino peasant religion and economics*. Berkeley : University of California Press.

-Pride, Kitty. 1965. *Chatino Syntax*. Norman, OK: SIL. (Publications in Linguistics and related fields, 12)

-Pride, Kitty and Leslie Pride. 2004. *Gramática chatina de la zona alta. Diccionario chatino de la zona alta*. México, D.F.: Instituto Lingüistico de Verano, A.C.2004.

-Rasch, Jeffrey. 2002 The Basic Morpho-syntax of Yaitepec Chatino. Ph.D. Dissertation, Rice University.

-Upson, B.W. and Robert E. Longacre. Proto-Chatino Phonology. International Journal of American Linguistics, Vol.31, No.4., pp.312-322.

-Villard, S. 2008. Los tonos del chatino de San Marcos Zacatepec. In *Las Memorias del Congreso de Idiomas Indígenas de Latinoamérica-III*. Archive of the Indigenous Languages of Latin America, www.ailla.utexas.org/site/cilla3_toc.html

- Woodbury, Anthony C. 2008. On the internal classification of Chatino. University of Texas at Austin ms. 4pp.

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