

POTENTIAL ASPECT AND THE ROLE OF TONE IN TWO VARIANTS OF ZAPOTEC¹

GWENDOLYN LOWES* AND AUSENCIA LOPEZ CRUZ**

Department of Linguistics*

University of Oregon

Eugene, Oregon, USA

Instituto Nacional de Antropología e Historia**

Mexico City, Mexico

glow@darkwing.uoregon.edu

1. Introduction²

The role of tone in Zapotec verbal morphology has been the focus of many studies for some time (Angulo 1926, Leal 1950, Bickmore and Broadwell 1998). As descriptions of Zapotec languages become more in depth and detailed, the use of suprasegmentals, such as tone, outside of the lexicon becomes well-documented. Many recent studies, such as those by Beam de Azcona (2004, 2005) and Nelson (2004), amongst others, discuss in especially remarkable detail the use of tone in morphology. Following suit, we examine tone used to mark potential aspect in two variants of Zapotec.

In this paper we illustrate a brief comparison of the use of tone in marking potential aspect on the verb between two variants of Valley Zapotec. To provide background we will briefly examine tone in the languages, the verbal template, subject marking and aspect marking. We then closely compare the two languages with regards to one of the two ways in which potential aspect is marked. We will conclude that the more innovative variant, spoken in San Pablo Güilá places more function on tone in this context.

2. Background

Zapotec languages are spoken in southern Mexico, primarily in the state of Oaxaca. Like Mixtecan, Chinantecan, Amuzgoan and other language families, they come

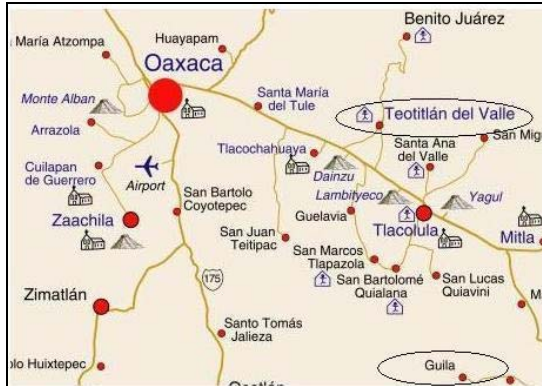
¹ This paper is an expanded version of Lowes and Lopez Cruz (2005).

² The TdVZ data for this paper were collected during a five month period, by one author, in the fall and winter of 2002-2003, and the summer of 2004 in Oaxaca City and Teotitlán del Valle, Mexico. The main consultants were two females, aged 18 and 26 and one male, aged 40 years, although a total of eight consultants contributed. SPGZ data come from the intuitions and observations of a native speaker, the second author, and from her consultation with other speakers in San Pablo Güilá. All English glosses are the authors' translations and any errors are our own.

from the Otomanguean stock. According to the Ethnologue, Teotitlán del Valle Zapotec (henceforth TdVZ) and San Pablo Güilá Zapotec (henceforth SPGZ) are both in the western Tlacolula sub-group (Gordon 2005). Teotitlán del Valle is located approximately 20 kilometers east of Oaxaca City with a population exceeding 5,000 inhabitants. Most adults over 60 years of age consider themselves monolingual speakers of TdVZ and adults up to 60 are, for the most part, bilingual (Spanish/Zapotec). San Pablo Güilá is located approximately 74 kilometers southeast of Oaxaca City. SPGZ also includes the language spoken by the people of the four following ranches: San Felipe Güilá, Rancho Blanco o Colonia Libertad, Tierra Blanca and El Colorado Güilá. Of the estimated 5,200 total speakers of SPGZ, more than 60% are bilingual (Spanish/Zapotec) while 35% remain monolingual Zapotec speakers. Both languages are endangered, TdVZ being the most critically in danger of the two. Linguists and non-linguists in both villages have started revitalization projects to some degree.

Teotitlán del Valle and San Pablo Güilá are shown in reference to Oaxaca city in Figure One below.

Figure One: Teotitlán del Valle and San Pablo Güilá



3. Verbal Morphology

3.1 Background

SPGZ is considered to be the more innovative of the two variants. This is based primarily on SPGZ's tendency to drop vowels in aspectual prefixes that are still present in TdVZ, as well as the fact that SPGZ no longer has geminate consonants while TdVZ has retained them in some environments. The polysyllabic CV-CVCV shape of older Zapotec verbs is evident in Cordova (1578) and even in the compilation created by Whitecotton and Whitecotton (1993). Geminate consonants

in Proto-Zapotec phonology have been discussed by Swadesh (1947), amongst others.

The structure of the verb is Aspect.Root.Subject in both languages with an optional subject pronoun appearing before the verb in elicitations. Roots are generally monosyllabic; the few disyllabic roots seem to be a transparent compound of two morphemes. In this comparison only monosyllabic roots are examined.

Both variants utilize tone in making lexical contrasts although the system employed by SPGZ both has a larger number of tones and uses tone more often. The majority of lexical items in TdVZ have low tone (a), although high (á) and rising (ǎ) tones are also found. In addition to these three SPGZ also has a falling tone (â).

3.2 Structure of the Verb

3.2.1. Subjects

Because the verb is always marked for a subject, the free-standing pronoun is optional in TdVZ and SPGZ, and usually not used unless to emphasize the subject. Table one on the next page illustrates the pronominal systems of the languages. Verbs are always suffixed with one of the forms in Table One while the free-standing pronoun is optional.

Table One: Pronouns in Teotitlán del Valle and San Pablo Güilá Zapotec³

Person/Number	Free-standing TdVZ	Suffix TdVZ	Free-standing SPGZ	Suffix SPGZ
1SG.	naa	-á'	naa'râ ~ naa'	-â'
1PL. INCL.	dunun	-un	dünùnũ	-nũ
1PL. EXCL.	dunún	-ún		
2SG.FAM.	lui ~ lee	-u'	lii'gǎ ~ lii'	-u'
2SG.FORM.	yubyu'	-u'	gyũu'byu'	-u'
2PL.FAM.	luitu	-tu	laa'dũ	-dũ
2PL.FORM.	yubytu	-tu	gyũu'bydũ	-dũ
3SG.FAM.	la'n	-a'n	laa'bí	-bí
3SG.FORM.	lá'an	-á'n	laa'bǎ	-bǎ

³ The abbreviations are as follows: SG: singular PL: plural INCL: inclusive EXCL: exclusive FAM: familiar FORM: formal INF: informal AN: animal INAN: inanimate SACR: sacred.

3SG.INF. ⁴			laa'xà'	-xa'
3SG.AN.	la'm	-um	laa'mă	-mă
3SG.INAN.	la'in	-in	laa'nĩ	-nĩ
3SG.SACR.	la'ín	-í'n	laa'na'	-ni'
3PL.FAM.	la'dan	-dan	laa'rabĩ	-răbĩ
3PL.FORM.	la'dán	-dán	laa'răbă	-răbă
3PL.INF.			laa'răxa'	-răxa'
3PL.AN.	la'dum	-dum	laa'rămă	-rămă
3PL.INAN.	la'din	-di'n	laa'rănĩ	-rănĩ
3PL.SACR.	la'dín	-dí'n	laa'răni'	-răni'

3.2.2. Aspectual Morphology

Both TdVZ and SPGZ have potential, habitual, progressive, completive, future and irrealis aspect. For further information on the syntactic and semantic uses of these aspectual forms in other Zapotec languages, Beam de Azcona (2005) is an excellent source and Black (2000) provides a nice overview.

Table Two: Aspect Marking in TdVZ and SPGZ

Aspect	Morpheme TdVZ	Morpheme SPGZ
Potential	gè-, gù-, gâ- ⁵ , g- chi-, ch-, b>kw, d>t, g>k, ø-	gí- (y-) ⁶ , g-, ch- b>kw, d>t, g>k, l>nd, r>ty, ø-
Habitual	r-, ru-, ra-, ri-, re	r-, ø-
Progressive	ka-, kay-	ka-, kay-, săy- (kă-, kăy- for 1 st SG)
Completive ⁷	ba-, gu-, by-	b-, ø- ~ w-, p-, m-, gw- b>kw
Future	zu-, z-	s-
Irrealis	nu-, ni- n-	nĩm-, nĩ-, ny-, n-

⁴ The informal third person is used exclusively between men to refer to someone else in the third person.

⁵ For some verbs, these are in free variation. That is, the prefix may have low or high tone for any of the gí-, gé-, gù- prefixes. If the prefix carries a low tone, however, a tonal change will result (low < high) in the root, or, if the root is monosyllabic, a complex contour can result with the addition of a monosyllabic person suffix of the same vowel (i.e. 1st singular with monosyllabic root containing *a*).

⁶ In some instances the prefix may be y-; it may be in free variation with gí within the word or change within the paradigm. For example, gí.biig.â' ~ y.biig.â' 'I will approach' and y.chí'ch.â' 'I will bother/annoy' versus gí.chí'ch.ù' 'you will bother/annoy'. In TdVZ, a similar phonological change is in progress throughout the language; gy is sometimes pronounced as [g^j], [y^j] (most common) or [j].

⁷ Some tonal and consonantal alternations are found in SPGZ for completive aspect. It remains unknown whether TdVZ has similar alternations

4. Potential Aspect

Potential Aspect in TdVZ and SPGZ is marked by one of two processes: a) adding a prefix (as evidenced in (1) below), or b) no prefix and tonal and consonantal alternation in the root. This section will compare how TdVZ and SPGZ differ in regards to the second (b) process of marking potential aspect. The former will be referred to as Type I and the latter as Type II.

Example (1) below demonstrates Type I potential aspect marking.

(1)	TdVZ	SPGZ
Root:	<i>zyats</i>	<i>syá'ts</i>
	<i>gú.zyats.ù'</i>	<i>gí.syá'ts.ù'</i>
	POT-decrease-2 ND .SG	POT-decrease-2 ND .SG
	'you will decrease (something)'	'you will decrease (something)'

4.1 Root Alternations in TdVZ⁸

If the root vowel in TdVZ has a low tone and begins with b, d or g the following alternations will take place: b>kw, g>k, d>t/k⁹. When this occurs, the first vowel in the root will carry high tone. This is shown below in (2). Note there is no prefix, yet the root-initial consonant and the tone of the root have changed.

(2)	Root:	<i>ba'n</i>	<i>ded</i>	<i>gez</i>
		<i>kwán-ù'</i>	<i>téd-ù'</i>	<i>kéz-ù'</i>
		steal.POT-2 ND .SG	bypass.POT-2 ND .SG	hug.POT-2 ND .SG
		'you will steal'	'you will bypass'	'you will hug'

Type II marking will not occur if the tone is high as shown in (3) below.

(3)	Root:	<i>dúp</i>
		<i>gú-dúpù'</i>
		POT-gather-2 ND .SG
		'You will gather (something)'

Note that in (4) potential aspect is marked with the CV prefix characterized by Type I. Despite the fact that the tone of the root is low, the expected alternation does not occur. The initial consonant of the root must be a lenis stop.

⁸ Other than those mentioned below, a very small number of verbs display root changes such as r>ty, r>t or l>ty. The few verbs in which these changes are recorded still need to be thoroughly studied.

⁹ One word was found to have the change d>k.

- (4) Root: *lub*
gù-lub-u'
 POT-sweep-2ND.SG
 'You will sweep'

Subject plays an important role in the root alternations in TdVZ. All subjects excepting first person plural inclusive and exclusive undergo the above changes. Verbs with first person plural subjects always employ the *gá* prefix. The example below shows the roots from (5) but in first person plural inclusive.

- | | | | | |
|-----|-------|--------------------------------|---------------------------------|------------------------------|
| (5) | Root: | <i>ba'n</i> | <i>ded</i> | <i>gez</i> |
| | | <i>gá-ba'n-un</i> | <i>gá-ded-un</i> | <i>gá-gez-un</i> |
| | | POT-steal-1 ST .INC | POT-bypass-1 ST .INC | POT-hug-1 ST .INC |
| | | 'we will steal' | 'we will bypass' | 'we will hug' |

4.2 Root Alternations in SPGZ

If the SPGZ root begins with b, g, d, r, l the following root alternations will take place: b>kw, g>k, d>t, r>ty, l>nd. In SPGZ, the tone of the root plays a different role. If the tone is high-rising it will become high level. If the tone is low, it will become falling. The data in (6) demonstrate this alternation.

- | | | | | |
|-----|-------|-------------------------------|--|-----------------------------|
| (6) | Root: | <i>baa'n</i> | <i>d ùù'by</i> | <i>gee's</i> |
| | | <i>kwáan-ù'</i> | <i>tíú'by-ni'¹⁰</i> | <i>kée's-ù'</i> |
| | | POT.steal-2 ND .SG | POT.be involved-3 RD .SG.IN | POT.hug-2 ND .SG |
| | | 'you will steal' | 'it will become involved' | 'you will hug' |

What is of special interest here are the data in (7) which demonstrate that *r-* and *l-* initial roots will undergo Type II potential aspect marking in SPGZ.

- | | | | |
|-----|-------|-----------------------------------|-------------------------------|
| (7) | Root: | <i>rùu'g</i> | <i>làa'</i> |
| | | <i>tyúu'g-ní</i> | <i>ndâ-ù'</i> |
| | | POT.be.cut-3 RD .SG.IN | POT.untie-2 ND .SG |
| | | 'it will be cut' | 'you will untie yourself' |

The data in (8), repeated from (6) above, demonstrate that roots with a high-rising tone will also employ Type II marking.

¹⁰ This root does not have a first person conjugation. It is only conjugated in the third person in SPGZ.

- (8) Root: *d ũu'by*
tũu 'by-ni
 POT-be.involved-1ST.PL.INC
 ‘it will become involved’

Note that in (9) Type II marking is employed despite first person plural subject.

- (9) Root: *baa'n*
kwâan-nú
 POT.steal-1ST.PL
 ‘we will steal’

4.3 Analysis and Summary

There exist both phonological and historical explanations for these alternations. Assuming Autosegmental Phonology, a floating tone could be associated with potential aspect which is realized on the root tone of the verbal root. Historically, these alternations could be the result of phonological erosion of the segment while the high tone has been left behind and realized on the root when there is no CV prefix available for it. Corroboration for this is the high tone which is still evident in TdVZ’s potential markers *gé-*, *gú-*, and *gá-*. The motivation for consonantal change remains to be clearly understood.

Being a more conservative language historically, TdVZ does not show the breadth of alternations that SPGZ exhibits. In TdVZ the verbal root must begin with a geminate obstruent and the tone of the root must be low for Type II potential aspect marking to be employed. Furthermore the subject of the verb must not be either first person plural. Type II marking will occur in SPGZ when the initial consonant of the root is a voiced obstruent or a sonorant consonant and regardless of the subject. This is summarised in Table Three below.

Table Three: Tonal Alternations in Potential Aspect in TdVZ and SPGZ

	Root-initial consonant is voiced stop	Root-initial consonant is liquid	First person plural	High tones	Low tones
TdVZ	Yes	No	No	No	Yes
SPGZ	Yes	Yes	Yes	Yes	Yes

The fact that SPGZ uses tone in more environments to indicate potential aspect suggests that tone in SPGZ has a greater functional load than in TdVZ. This is

consonant with the hypothesis that Zapotec languages are attributing a greater function to tone in general.

There is further evidence in TdVZ that a change is indeed in progress. Consider the data in (10) and (11).

- | | | | |
|------|--|--|--|
| (10) | <i>ba' n</i>
<i>gá- ba' n -un</i>
POT-steal-1 ST .PL.INC
'we will steal' | <i>ded</i>
<i>gá-ded-un</i>
POT-bypass-1 ST .PL.INC
'we will bypass' | <i>gez</i>
<i>gá-gez-un</i>
POT-hug-1 ST .PL.INC
'we will hug' |
| (11) | <i>ba' n</i>
<i>ga-bá' -ùn</i>
POT-steal-1 ST .PL.INC
'we will steal' | <i>ded</i>
<i>ga-déd-ùn</i>
POT-bypass-1 ST .PL.INC
'we will bypass' | <i>gez</i>
<i>ga-géz-ùn</i>
POT-hug-1 ST .PL.INC
'we will hug' |

In first person plural, high tone can be realized on the aspectual prefix *or* on the verbal root, in which case, low tone occurs on the prefix. Neither can be considered to be more basic or marked at this point; that is, they are in free variation. This suggests that speakers are aware tone is relevant in marking potential aspect but have not yet spread it across all verbal paradigms.

5. Conclusions

We have illustrated some examples of the tonal alternations found to mark potential aspect in Teotitlán del Valle and San Pablo Güilá Zapotec. Both use tone to some degree to mark potential aspect, but San Pablo Güilá Zapotec uses tone in more environments and the role of tone is slightly different. We find it interesting that this increased use of tone correlates with greater historical innovation and for future work would like to conduct a much broader comparison, looking at tonal morphology in other contexts and comparing a broader base of Zapotec languages.

Bibliography

- de ANGULA, J. (1926). *Tone Patterns and Verb Forms in a Dialect of Zapotec Language* (2).
- BEAM DE AZCONA, R. (2005). *A Coatlán-Loxicha Zapotec Grammar*. PhD Dissertation. University of California Berkeley.
- _____. (2004) *Two kinds of tonal morphology associated with potential aspect marking in Coatlán-Loxicha Zapotec*. Presented at the 2004 SSILA meeting. Available at the following website: <http://www.linguistics.berkeley.edu/~rosemary/home.htm>.

- BLACK, C.A. (2000). *Quiévolani Zapotec Syntax: a principles and parameters account*. Dallas, TX: SIL International.
- BICKMORE, L. and G.A. BROADWELL. (1998). High Tone Docking in Sierra Juárez Zapotec. *International Journal of American Linguistics*. 64:37-67.
- de CÓRDOVA, P. F.J. (1987) [1578]. *Arte del Idioma Zapoteco*. Mexico: INAH.
- GORDON, R.G., Jr. (ed.) (2005). *Ethnologue: Languages of the World*, Fifteenth edition. Dallas, Tex.: SIL International. Online version: <http://www.ethnologue.com>.
- LEAL, M. (1950). Patterns of Tone Substitution in Zapotec Morphology. *International Journal of American Linguistics*. 16:132-36.
- LOWES, G. and A. LOPEZ CRUZ (2005) Tonal Alternations in Potential Aspect within Two Variants of Valley Zapotec. *Proceedings from the Ninth International Symposium on Social Communication*. Cuba: Santiago de Cuba.
- NELSON, J.L. (2004). *Tone and Glottalization on Nominals in San Juan Mixtepec Zapotec*. MA Thesis. Arlington: University of Texas, Arlington.
- SWADESH, M. The Phonemic Structure of Proto-Zapotec. *International Journal of American Linguistics*. 13(4):220-230.
- WHITECOTTEN, J.W. and J.B. WHITECOTTON. (1993) *Voabulario Zapoteco-Castellano*. Tennessee: Vanderbilt University.

Gwendolyn Lowes and Ausencia Lopez Cruz